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ABSTRACT

This publication provides projections for key education statistics. It includes statistics on enrollment, graduates, teachers, and expenditures in elementary and secondary schools, and enrollment, earned degrees conferred, and current-fund expenditures of degree-granting institutions. For the Nation, the tables, figures, and text contain data on enrollment, teachers, graduates, and expenditures for the past 14 years and projections to the year 2013. For the 50 States and the District of Columbia, the tables, figures, and text contain data on projections of public elementary and secondary enrollment and public high school graduates to the year 2013. In addition, the report includes a methodology section describing models and assumptions used to develop national and state-level projections. Appended are: Projection Methodology; Supplementary Tables; Data Sources; and Glossary. (Contains 14 Summary of Projections figures, 36 Reference figures, 3 Summary of Projections tables, and 39 Reference tables.) (Author)

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Thirty-second Edition

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Projections of Education Statistics to 2013

Thirty-second Edition

November 2003

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National Center for
Education Statistics

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Foreword

Projections of Education Statistics to 2013 is the 32nd report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2012* and *Projections of Education Statistics to 2011*. It includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections of enrollment, graduates, teachers, and expenditures to the year 2013.

In addition to projections at the national level, the report includes projections of public elementary and secondary school enrollment and public high school graduates to the year 2013 at the state level. These projections were produced by the National Center for Education Statistics (NCES) to provide researchers, policy analysts, and others with state-level projections developed using a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

Assumptions regarding the population and the economy are the key factors underlying the projections of education statistics. The projections do not reflect changes in national, state, or local education policies that may affect enrollment levels.

Appendix A of this report outlines the projection methodology, describing the models and assumptions used to develop the national and state projections. The enrollment models use enrollment data and population estimates and projections from NCES and the U.S. Census Bureau. The models are based on the mathematical projection of past data patterns into the future. The models also use projections of economic variables from the company Global Insight, Inc., an economic forecasting service.

The projections presented in this report are based on the 2000 census and assumptions for the fertility rate, internal migration, net immigration, and mortality rate. For further information, see appendix A.

Most of the projections of education statistics include three alternatives, based on different assumptions about demographic and economic growth paths. Although the first alternative set of projections (middle alternative) in each table is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes.

This report's Summary of Projections presents highlights for key education statistics. In addition, a brief overview of the projections in this report is available in a pocket-sized booklet, *Pocket Projections: Projections of Education Statistics to 2013*.

Valena W. Plisko, Associate Commissioner
Early Childhood, International, and
Crosscutting Studies Division
October 2003

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Projections of Education Statistics to 2013 was produced by the National Center for Education Statistics (NCES) in the Early Childhood, International, and Crosscutting Studies Division under the general direction of Thomas D. Snyder, Director of the Annual Reports Program. The report was prepared by Debra E. Gerald, mathematical statistician, and William J. Hussar, financial economist. They were supported by Tabitha Bailey, Geoffrey Green, and Maria Kulikova of Global Insight, Inc., who implemented the projection models.

The technical review was done by Shelley K. Burns of NCES. Jason Sellers, Michael Regnier, and Emily Rosenthal of the Education Statistics Services Institute (ESSI) assisted in the technical review of this report. The adjudication was conducted by Bruce Taylor, adjudicator of NCES. Valuable assistance was also provided by the following reviewers: Gregory Spencer of the U.S. Census Bureau and Stephen Broughman, William Fowler, Frank Morgan, and John Sietsema of NCES.

The cover was designed by Elina Hartwell of ESSI.

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List of Abbreviations

ADA	average daily attendance
BLS	Bureau of Labor Statistics
CPI	Consumer Price Index
EDMOD	Education Forecasting Model
ESSI	Education Statistics Services Institute
FTE	full-time-equivalent
IPEDS	Integrated Postsecondary Education Data System
MAPE	mean absolute percentage error
NCES	National Center for Education Statistics

About This Report

Guide to This Edition

This edition of *Projections of Education Statistics* provides projections for key education statistics, including enrollment, graduates, teachers, and expenditures in elementary and secondary schools and degree-granting institutions. Included are national data on enrollment and graduates for the past 14 years and projections to the year 2013, as well as state-level data on enrollment in public elementary and secondary schools and public high school graduates to the year 2013.

State-level data on enrollment and graduates in private schools are not included. Further research and model development are needed to develop reliable projections of private school enrollment and graduates by state. Projections also exclude the number of students who are homeschooled because national data are available for only 1 year.

Similar methodologies were used to obtain a uniform set of projections for the 50 states and the District of Columbia. These projections are further adjusted to agree with the national projections of public elementary and secondary school enrollment and public high school graduates contained in this report.

The summary of projections provides highlights of the national and state data, while the reference tables and figures present more detail. While rounded numbers are presented in the tables, percentages are based on unrounded numbers.

Appendix A describes the methodology and assumptions used to develop the projections, appendix B presents supplementary tables, appendix C describes data sources, and appendix D is a glossary of terms.

Limitations of Projections

Projections of time series usually differ from the final reported data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions. Therefore, alternative projections are shown for most statistical series to denote the uncertainty involved in making projections. These alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds.

The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average value of the absolute value of errors in percentage terms. For example, the mean absolute percentage errors of public school enrollment in grades K–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.1, and 2.7 percent, respectively. In contrast, mean absolute percentage errors for doctor's degrees for lead times of 1, 2, and 5 years were 2.2, 3.4, and 2.9 percent, respectively. For more information on mean absolute percentage errors, see table A2 in appendix A.

Alternative projections are presented for enrollment in degree-granting institutions, earned degrees conferred, elementary and secondary teachers, and expenditures of public educational institutions.

Summary of Projections

Section 1. Elementary and Secondary Enrollment

Introduction

Total public and private elementary and secondary school enrollment reached a record 54 million in fall 2001, representing a 19 percent increase since fall 1988. Between 2001 and 2013, a further increase of 5 percent is expected, with increases projected in both public and private schools. In the regions, increases are expected in the West, South, and Midwest, and a decrease is expected in the Northeast.

Factors affecting the projections

The projected changes in enrollment reflect factors such as internal migration, legal and illegal immigration, the relatively high level of births in the 1990s, and resultant changes in the population (reference figure 1), rather than changes in attendance rates.

Factors that were not considered

The projections do not assume changes in policies or attitudes that may affect enrollment levels. For example, they do not account for changing state and local policies on prekindergarten and kindergarten programs. Expansion of these programs could lead to higher enrollments at the elementary school level. Projections also exclude the number of students who are homeschooled because national data are available for only 1 year.

National

After increasing by about one-fifth between 1988 and 2001, enrollments in both public and private schools are expected to increase at slower rates between 2001 and 2013. Small enrollment increases are expected at both the K–8 and 9–12 grade spans (figures A and B; reference figures 2 and 3 and table 1).

Total enrollment

Total elementary and secondary enrollment

- increased 19 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013.

Enrollment in grades K–8

Enrollment in kindergarten through grade 8

- increased 19 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013.

Enrollment in grades 9–12

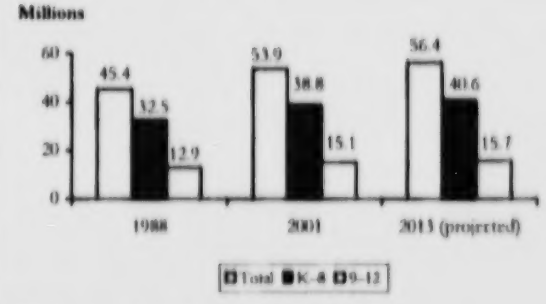
Enrollment in grades 9–12

- increased 17 percent between 1988 and 2001; and
- is projected to increase 4 percent between 2001 and 2013.

The grade progression rate method

The method used to project school enrollments assumes that future trends in factors affecting enrollments will be consistent with past patterns. It implicitly includes the net effect of factors such as dropouts, deaths, nonpromotion, and transfers to and from public schools. See appendix A for more details.

Figure A. Elementary and secondary enrollment, total and by grade group: Selected years



NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and National Elementary and Secondary School Enrollment Model. (See reference table 1.)

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Public elementary and secondary enrollment

Enrollment in public elementary and secondary schools

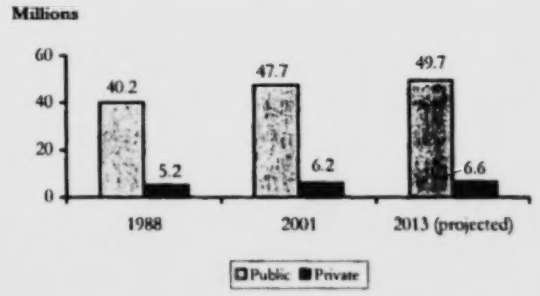
- increased 19 percent between 1988 and 2001; and
- is projected to increase 4 percent between 2001 and 2013.

Private elementary and secondary enrollment

Enrollment in private elementary and secondary schools

- increased 18 percent between 1988 and 2001; and
- is projected to increase 7 percent between 2001 and 2013.

Figure B. Elementary and secondary enrollment, by control of school: Selected years



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and National Elementary and Secondary School Enrollment Model. (See reference table 1.)

State and Regional (Public School Data)

Between 2001 and 2013, enrollment in public elementary and secondary schools is expected to increase in 30 states and decrease in 20 states, including the District of Columbia (tables A and B; reference figure 5 and tables 4–9). In the regions, public school enrollment during the same period is expected to increase in the South, West, and Midwest and to decrease in the Northeast.

States

The expected 4 percent national increase in public school enrollment between 2001 and 2013 plays out differently for most states.

- Increases are projected for 30 states, with
  - the largest increases projected for Alaska (17 percent), Hawaii (16 percent), and California (16 percent);
  - increases between 10 and 15 percent projected for 7 states; and
  - increases between 0.4 and 9 percent projected for 20 states.
- No change is projected for Louisiana.

Table A. Projected percent increases in public elementary and secondary school enrollment, by state: 2001 to 2013

Alaska	17.0	Virginia	4.3
Hawaii	16.1	South Dakota	2.6
California	15.7	New Jersey	2.5
Idaho	15.1	Michigan	2.4
New Mexico	14.9	Tennessee	2.4
Nevada	13.8	Nebraska	2.0
Wyoming	13.1	Rhode Island	1.9
Utah	12.7	Delaware	1.8
Arizona	12.0	Maryland	1.7
Texas	11.2	Kansas	1.4
Colorado	8.8	Illinois	1.2
Georgia	6.8	South Carolina	0.9
Washington	5.7	Missouri	0.5
Oregon	5.4	Indiana	0.4
Florida	5.4		
Montana	4.6		

SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (See reference table 5.)

- Decreases are projected for 20 states, with
  - the largest decreases projected for West Virginia (6 percent) and Kentucky (6 percent);
  - decreases between 2.4 and 5 percent projected for 10 states;
  - decreases between 0.9 and 2 percent projected for 7 states; and
  - the smallest decrease projected for New Hampshire (0.2 percent).

Regions

Between 2001 and 2013, public elementary and secondary enrollment is projected to

- increase 13 percent in the West;
- increase 4 percent in the South;
- decrease 2 percent in the Northeast; and
- increase slightly in the Midwest.

Table B. Projected percent decreases in public elementary and secondary school enrollment, by state: 2001 to 2013

New Hampshire	–0.2
North Carolina	–0.9
Wisconsin	–1.1
Minnesota	–1.2
Iowa	–1.6
Alabama	–1.7
Oklahoma	–1.7
Pennsylvania	–1.9
Massachusetts	–2.4
Maine	–2.4
Mississippi	–2.4
District of Columbia	–2.8
Connecticut	–2.8
Arkansas	–2.9
Ohio	–3.2
Vermont	–3.2
New York	–3.5
North Dakota	–4.5
Kentucky	–5.5
West Virginia	–6.1

SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (See reference table 5.)

Accuracy of Projections

An analysis of projection errors from the past 20 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out for projections of public school enrollment in grades K–12 were 0.3, 0.5, 1.1, and 2.7 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.3 percent of the actual value, on average. For projections of public school enrollment in grades K–8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 0.3, 0.6, 1.1, and 3.8 percent, respectively, while the MAPEs for projections of public school enrollment in grades 9–12 were 0.6, 0.8, 1.3, and 2.8 percent, respectively, for the same lead times.

Projections of public elementary and secondary enrollment produced by the National Center for Education Statistics (NCES) over the last 20 years have been more accurate than projections of public high school graduates produced by NCES over the same period. For more information, see table A2 in appendix A.

Section 2. Enrollment in Degree-Granting Institutions

Introduction

Total enrollment in degree-granting institutions is expected to increase between 2000 and 2013. Degree-granting institutions provide study beyond secondary school and offer programs terminating in an associate's, baccalaureate, or higher degree. Differential growth is expected by student characteristics such as age, sex, and attendance status (part-time or full-time). Enrollment is expected to increase in both public and private degree-granting institutions.

Factors affecting the projections

Changes in age-specific enrollment rates and college-age populations will affect enrollment levels between 2000 and 2013. The most important factor is the expected increase in the traditional college-age population of 18- to 24-year-olds.

Three alternative sets of projections

Middle, low, and high sets of projections were made for total enrollment in degree-granting institutions and for enrollment by age, sex, attendance status, level (undergraduate, graduate, or first-professional), and control of institution.

Assumptions underlying the projections

The middle alternative uses a base-line scenario of the economy for projections of disposable income and unemployment rates. The low and high alternatives are based on the pessimistic and optimistic scenarios of the economy, respectively, to provide other possible outcomes. For more information, see appendix A.

Factors that were not considered

The enrollment projections do not take into account such factors as the cost of a college education, the economic value of an education, and the impact of distance learning due to technological changes. These factors may produce changes in enrollment levels.

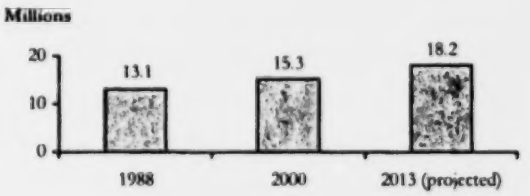
Total Enrollment

Total enrollment in degree-granting institutions increased 17 percent from 1988 to 2000 (figure C; reference figure 10 and table 10).

Between 2000 and 2013, total enrollment is projected to increase

- 19 percent, to 18.2 million, in the middle alternative projections;
- 15 percent, to 17.7 million, in the low alternative projections; and
- 23 percent, to 18.8 million, in the high alternative projections.

Figure C. Total enrollment in degree-granting institutions, with middle alternative projections: Selected years



SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (See reference table 10.)

Enrollment by Selected Characteristics and Control of Institution

Enrollment by age of student

Between 2000 and 2013, in the middle alternative projections, enrollment (figure D; reference figures 11–13 and tables 11–13) is projected to increase

- 22 percent for students who are 18 to 24 years old; and
- 2 percent for students who are 35 years old and over.

Enrollment by sex of student

Between 2000 and 2013, in the middle alternative projections, enrollment (reference figure 14 and tables 10–21) is projected to increase

- 15 percent for men; and
- 21 percent for women.

Enrollment by attendance status

Between 2000 and 2013, in the middle alternative projections, enrollment (reference figure 15 and tables 10–22) is projected to increase

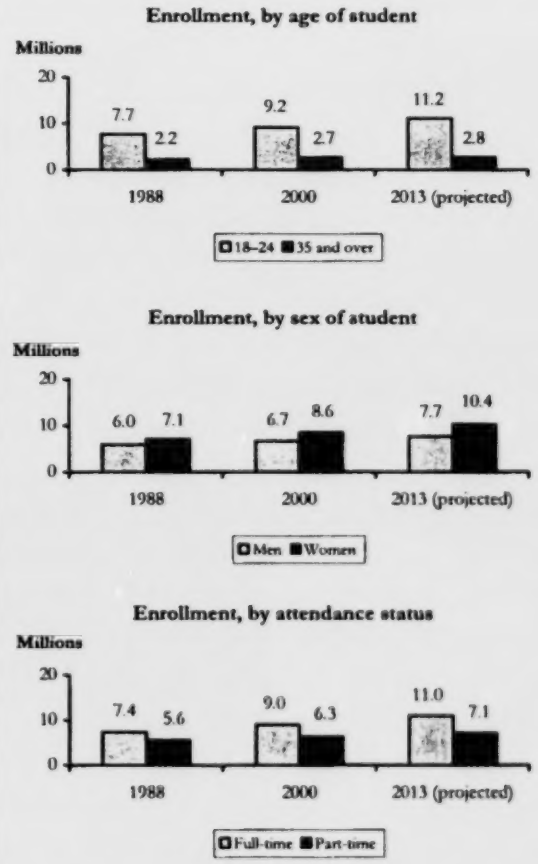
- 22 percent for full-time students; and
- 13 percent for part-time students.

Enrollment by level

Between 2000 and 2013, in the middle alternative projections, enrollment (reference figures 18 and 19 and tables 19–21) is projected to increase

- 18 percent for undergraduate students;
- 19 percent for graduate students; and
- 27 percent for first-professional students.

Figure D. Enrollment in degree-granting institutions, by selected characteristics, with middle alternative projections: Selected years



SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (See reference tables 10 and 11.)

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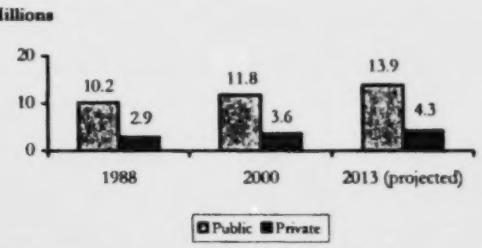
Enrollment in public and private institutions

Between 2000 and 2013, in the middle alternative projections, enrollment (figure E; reference figure 16 and tables 10 and 15–22) is projected to increase

- 18 percent in public institutions; and
- 20 percent in private institutions.

Figure E. Enrollment in degree-granting institutions, by control of institution, with middle alternative projections: Selected years



SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (See reference table 10.)

Accuracy of Projections

For projections of total enrollment in degree-granting institutions, an analysis of projection errors based on the past six editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, and 5 years out were 1.2, 0.9, and 2.4 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.2 percent of the actual value, on average.

NCES projections of college enrollment produced over the past 6 years have been more accurate than projections of doctor's degrees but less accurate than projections of public elementary and secondary enrollment produced over the same period. For more information, see table A2 in appendix A.

Section 3. High School Graduates

Introduction

Between 2000–01 and 2012–13, the number of high school graduates is projected to increase nationally by 11 percent. Increases are expected in each region of the country, especially the West. Both public and private schools are expected to have increases in high school graduates.

Factors affecting the projections

Projected increases in the number of graduates reflect changes in the 18-year-old population over the projection period, rather than changes in the graduation rates of 12th-graders. However, projections of graduates could be impacted by changes in policies affecting graduation requirements.

Definition

A *high school graduate* is defined as an individual who has received formal recognition from school authorities, by the granting of a diploma, for completing a prescribed course of study. This definition does not include other high school completers or high school equivalency recipients.

National

Total number of high school graduates

The total number of high school graduates (figure F; reference figures 21 and 22 and table 23)

- increased 3 percent between 1987–88 and 2000–01; and
- is projected to increase 11 percent between 2000–01 and 2012–13.

Public high school graduates

The number of public high school graduates

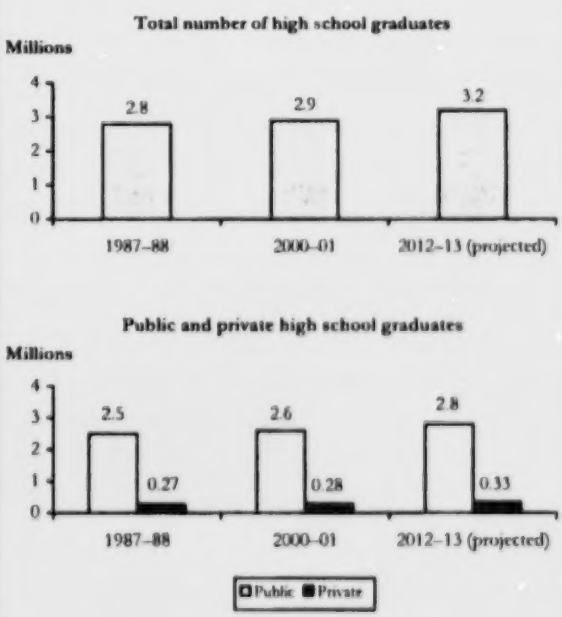
- increased 3 percent between 1987–88 and 2000–01; and
- is projected to increase 11 percent between 2000–01 and 2012–13.

Private high school graduates

The number of private high school graduates

- increased 4 percent between 1987–88 and 2000–01; and
- is projected to increase 18 percent between 2000–01 and 2012–13.

Figure F. Number of high school graduates, total and by control of school: Selected years



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and National High School Graduates Model. (See reference table 23.)

State and Regional (Public School Data)

Between 2000–01 and 2012–13, the number of public high school graduates is expected to increase in nearly half the states (table C) and in all four regions (reference figure 23 and tables 24 and 25).

States

The expected 11 percent national increase in public high school graduates between 2000–01 and 2012–13 plays out differently in each state.

- Increases are projected for 25 states, with
  - the largest increases projected for Nevada (72 percent), Florida (30 percent), and Arizona (30 percent);
  - increases between 20 and 27 percent projected for 6 states;
  - increases between 4 and 19 percent projected for 14 states; and
  - the smallest increases projected for Utah (3 percent) and New York (2 percent).
- Decreases are projected for 26 states, with
  - the largest decreases projected for North Dakota (32 percent) and the District of Columbia (31 percent);
  - decreases between 11 and 26 percent projected for 8 states;
  - decreases between 2 and 11 percent projected for 14 states; and
  - the smallest decreases projected for Alaska (0.8 percent) and Idaho (0.2 percent).

Table C. Projected percent change in the number of public high school graduates, by state: 2000–01 to 2012–13

Increases		Decreases	
Nevada	72.2	Idaho	-0.2
Florida	30.1	Alaska	-0.8
Arizona	29.6	Missouri	-2.8
New Jersey	26.7	Ohio	-5.1
Michigan	25.9	Montana	-5.9
California	25.1	New Hampshire	-6.8
Georgia	22.7	Arkansas	-8.9
Colorado	22.1	Hawaii	-9.2
North Carolina	20.6	Wisconsin	-9.9
Virginia	19.2	Alabama	-10.2
Connecticut	19.0	Kansas	-10.3
Texas	19.0	Iowa	-11.5
Illinois	17.5	Nebraska	-11.5
South Carolina	16.9	Mississippi	-11.5
Rhode Island	15.5	Kentucky	-12.8
Tennessee	10.7	New Mexico	-14.1
Maryland	8.6	Oklahoma	-14.3
Delaware	8.6	Louisiana	-15.8
Oregon	6.9	Maine	-15.9
Massachusetts	6.1	West Virginia	-15.9
Washington	6.0	Vermont	-17.7
Pennsylvania	4.9	South Dakota	-20.6
Indiana	4.8	Minnesota	-20.8
Utah	2.9	Wyoming	-25.7
New York	2.0	District of Columbia	-31.5
		North Dakota	-31.7

SOURCE: U.S. Dept. of Education, NCES, Common Core of Data surveys and State Public High School Graduates Model. (See reference table 25.)

Regions

Between 2000–01 and 2012–13, the number of public high school graduates is projected to

- increase 18 percent in the West;
- increase 12 percent in the South;
- increase 8 percent in the Northeast; and
- increase 4 percent in the Midwest.

Accuracy of Projections

For NCES projections of public high school graduates produced over the last 20 years, the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out were 0.6, 1.0, 1.6, and 4.4, respectively. NCES projections of public high school graduates have been less accurate than projections of public elementary and secondary enrollment but more accurate than projections of earned degrees by level. For more information, see table A2 in appendix A.

Section 4. Earned Degrees Conferred

Introduction

Historical growth in enrollment in degree-granting institutions, with particularly large increases among women, has led to a substantial increase in the number of earned degrees conferred. With the exception of doctor's degrees awarded to men, increases in the number of degrees conferred are expected to continue between 2000–01 and 2012–13.

Three alternative sets of projections

Middle, low, and high sets of projections were developed for the total number of earned degrees conferred at each level—associate's, bachelor's, master's, doctor's, and first-professional—as well as for the number conferred at each level by sex of recipient.

About the projections

Projections of earned degrees by level and sex were based primarily on college-age populations and college enrollment by level and attendance status. Some factors that may affect future numbers of earned degrees, such as choice of degree and demand for occupations, were not included in the projection models.

Earned Degrees by Level of Degree and Sex of Recipient

Between 1987–88 and 2000–01, the number and proportion of degrees awarded to women rose at all levels. In 2000–01, women earned the majority of associate's, bachelor's, and master's degrees, 45 percent of doctor's degrees, and 46 percent of first-professional degrees. Between 2000–01 and 2012–13, continued increases are expected in the number of degrees awarded to women at all levels (figure G; reference figures 24–28 and tables 26–30).

Associate's degrees

Between 2000–01 and 2012–13, in the middle alternative projections, the number of associate's degrees is projected to

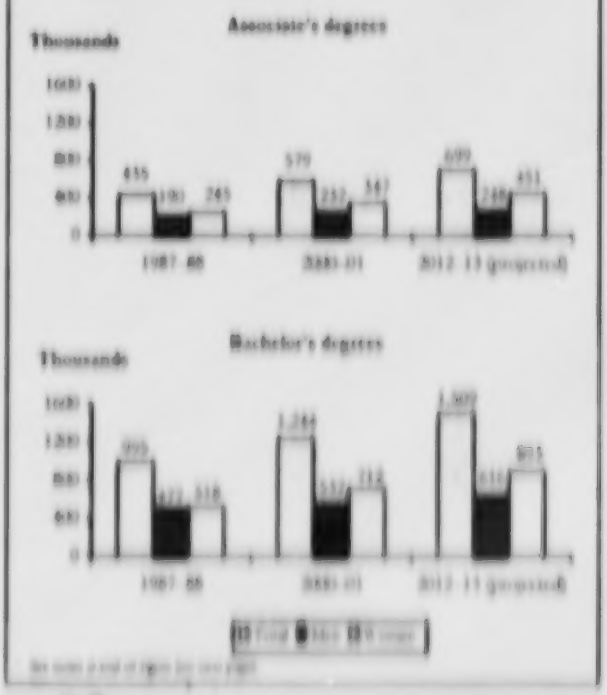
- increase 21 percent overall;
- increase 7 percent for men; and
- increase 30 percent for women.

Bachelor's degrees

Between 2000–01 and 2012–13, in the middle alternative projections, the number of bachelor's degrees is projected to

- increase 21 percent overall;
- increase 16 percent for men; and
- increase 25 percent for women.

Figure G. Earned degrees conferred, by level and sex of recipient, with middle alternative projections: Selected years



Master's degrees

Between 2000–01 and 2012–13, in the middle alternative projections, the number of master's degrees is projected to

- increase 19 percent overall;
- increase 17 percent for men; and
- increase 20 percent for women.

Doctor's degrees

Between 2000–01 and 2012–13, in the middle alternative projections, the number of doctor's degrees is projected to

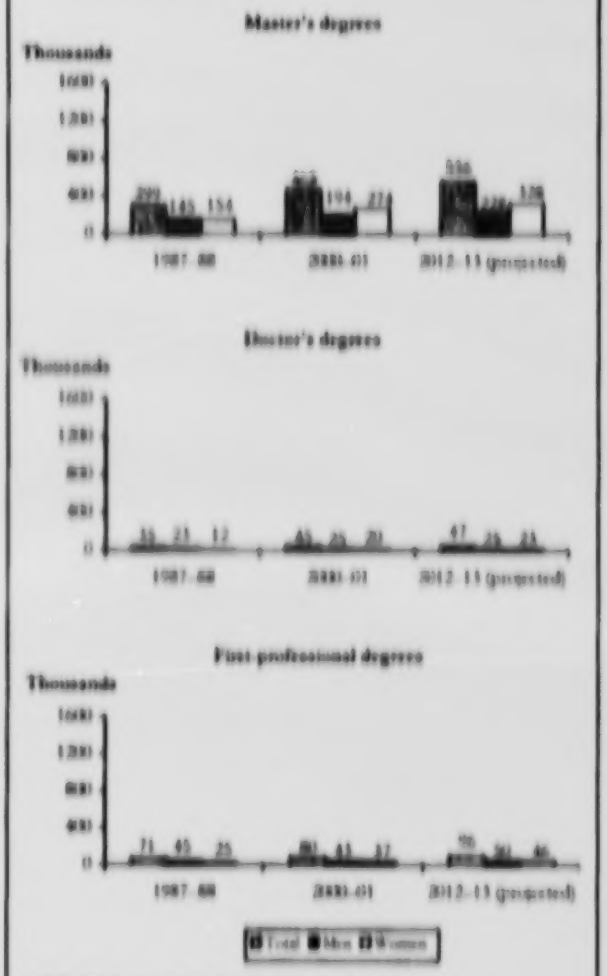
- increase 5 percent overall;
- decrease 0.1 percent for men; and
- increase 12 percent for women.

First-professional degrees

Between 2000–01 and 2012–13, in the middle alternative projections, the number of first-professional degrees is projected to

- increase 20 percent overall;
- increase 16 percent for men; and
- increase 26 percent for women.

Figure G. Earned degrees conferred, by level and sex of recipient, with middle alternative projections: Selected years—Continued



NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Dept. of Education, NCES, Integrated Postsecondary Education Data System (IPEDS), "Completions Survey," various years, and Earned Degrees Conferred Model. (See reference tables 26 through 30.)

Definition

A *first professional degree* is one that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. A first professional degree is based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 years of work to complete the degree program, including both prior required college work and the professional program itself. Degree fields include dentistry, medicine, law, and theological professions.

Accuracy of Projections

An analysis of projection errors from the past seven editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for associate's degree projections were 2.1 percent for 1 year out, 2.4 percent for 2 years out, and 5.1 percent for 5 years out. The MAPEs for bachelor's degree projections were 1.1, 2.1, and 4.9 percent, respectively, for lead times of 1, 2, and 5 years out. The MAPEs for master's degrees were 1.2, 4.3, and 8.7 percent, respectively. For doctor's degrees, the MAPEs were 2.2, 3.4, and 2.9 percent, respectively. For first-professional degrees, the MAPEs were 1.5, 1.6, and 5.4 percent, respectively.

NCES projections of earned degrees by level produced over the last 7 years have been less accurate than NCES projections of public elementary and secondary enrollment produced over the same period. For more information on the MAPEs of different NCES projection series, see table A2 in appendix A.

Section 5. Elementary and Secondary Teachers

Introduction

Between 2001 and 2013, the number of teachers in elementary and secondary schools is projected to rise. The numbers of both public and private school teachers are projected to grow.

Factors affecting the projections

The projected increase in the number of elementary and secondary teachers is related to levels of enrollments and to education revenue receipts from state sources per capita.

Three alternative sets of projections

Middle, low, and high sets of projections were produced for the number of teachers and the pupil/teacher ratio by control of school (public or private).

Factors that were not considered

The projections do not take into account possible increases in the number of teachers due to the effects of legislative initiatives.

Assumptions underlying the projections

In order to provide a range of possible outcomes, the alternative projections make varying economic assumptions about the growth path for one of the key variables used to project the number of public school teachers—education revenue receipts from state sources per capita.

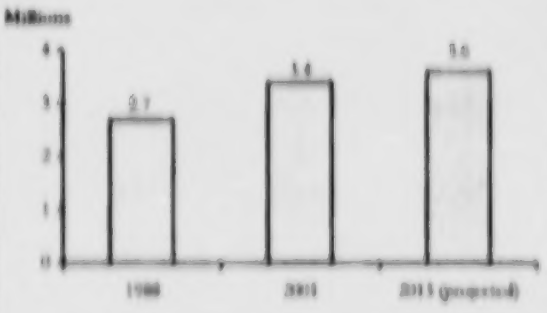
Teachers in Elementary and Secondary Schools

Total elementary and secondary teachers

The total number of elementary and secondary teachers (figure H, reference figure 29 and table 31)

- increased 27 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013 in the middle alternative projections.

Figure H. Total number of elementary and secondary teachers, with middle alternative projections: Selected years



SOURCE: U.S. Dept. of Education, NCES, Common Core of Data surveys, various years, and Elementary and Secondary Teacher Model. (See reference table 31.)

Public school teachers

The number of teachers in public elementary and secondary schools (figure I; reference figure 30 and table 31)

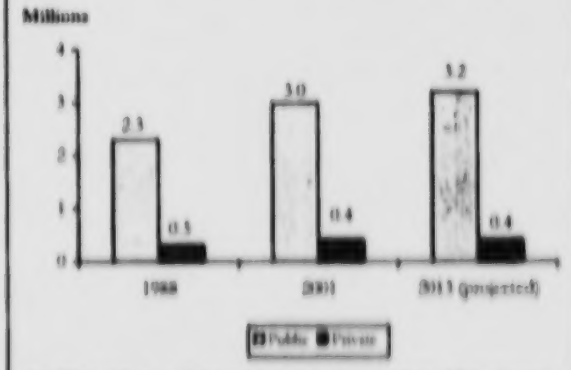
- increased 29 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013 in the middle alternative projections.

Private school teachers

The number of teachers in private elementary and secondary schools

- increased 13 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013 in the middle alternative projections.

Figure I. Number of elementary and secondary teachers, by control of school, with middle alternative projections: Selected years



SOURCE: U.S. Dept. of Education, NCES, Common Core of Data surveys, various years; Private School Universe Survey, various years; and Elementary and Secondary Teacher Model. (See reference table 31.)

Pupil/Teacher Ratios

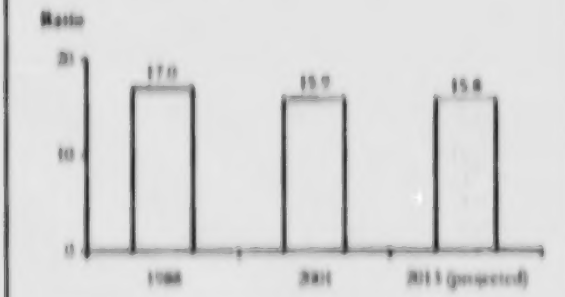
The pupil/teacher ratio in elementary and secondary schools (figure J; reference figures 31 and 32 and table 32)

- decreased from 17.0 to 15.9 between 1988 and 2001; and
- is projected to be 15.8 in 2013 in the middle alternative projections.

About pupil/teacher ratios

A broad relationship between numbers of pupils and teachers can be described by a pupil/teacher ratio. The overall elementary and secondary pupil/teacher ratio and pupil/teacher ratios for public and private schools were computed based on elementary and secondary enrollment and the number of classroom teachers by control of school.

Figure J. Pupil/teacher ratio in elementary and secondary schools, with middle alternative projections: Selected years



SOURCE: U.S. Dept. of Education, NCES, Common Core of Data surveys, various years; Private School Universe Survey, various years; and Elementary and Secondary Teacher Model. (See reference table 32.)

Accuracy of Projections

An analysis of projection errors from the past 13 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 1.7 percent for 1 year out, 2.1 percent for 2 years out, 2.6 percent for 5 years out, and 5.6 percent for 10 years out. NCES projections of public elementary and secondary teachers produced over the last 13 years have been less accurate than NCES projections of public elementary and secondary enrollment produced over the same period. For more information on the MAPEs of different NCES projection series, see table A2 in appendix A.

Section 6. Expenditures of Public Elementary and Secondary Schools

Introduction

Current expenditures and average annual teacher salaries in public elementary and secondary schools are both projected to increase in constant dollars between school years 2000–01 and 2012–13, with current expenditures projected to increase more rapidly.

Three alternative sets of projections

Middle, low, and high sets of projections were made for total current expenditures, current expenditures per pupil, and teacher salaries.

Assumptions underlying the projections

Each set of projections is based on alternative assumptions concerning economic growth and assistance by state governments to local governments. For more details, see appendix A.

Current Expenditures

Between 2000–01 and 2012–13, increases are expected in the current expenditures and current expenditures per pupil of public elementary and secondary schools (figure K; reference figures 33 and 34 and tables 33 and 34).

Current expenditures

Current expenditures in constant 2001–02 dollars increased 47 percent from 1987–88 to 2000–01.

From 2000–01 to 2012–13, current expenditures in constant 2001–02 dollars are projected to increase

- 31 percent, to $465 billion, in the middle alternative projections;
- 19 percent, to $420 billion, in the low alternative projections; and
- 43 percent, to $507 billion, in the high alternative projections.

Current expenditures per pupil

Current expenditures per pupil in constant 2001–02 dollars increased 24 percent from 1987–88 to 2000–01.

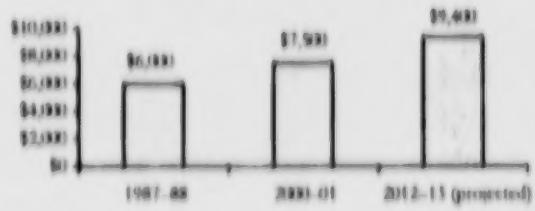
From 2000–01 to 2012–13, current expenditures in constant 2001–02 dollars per pupil in fall enrollment are projected to increase

- 26 percent, to $9,400, in the middle alternative projections;
- 14 percent, to $8,500, in the low alternative projections; and
- 37 percent, to $10,300, in the high alternative projections.

Other factors that may affect the projections

Many factors that may affect future school expenditures and teacher salaries were not considered in the production of these projections. Such factors include recent policy initiatives, as well as potential changes in the distribution of elementary and secondary teachers as older teachers retire and are replaced by younger teachers.

Figure K. Current expenditures per pupil in 2001–02 dollars, with middle alternative projections: Selected years



NOTE: Data were placed in constant 2001–02 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).

SOURCE: U.S. Dept. of Education, NCES, Common Core of Data, "National Public Education Finance Survey," various years; National Elementary and Secondary Enrollment Model; and Elementary and Secondary School Current Expenditures Model. (See reference table 33.)

Teacher Salaries

Teacher salaries are projected to increase between 2002–03 and 2012–13 (reference figure 35 and table 35).

In the middle alternative projections, teacher salaries in constant 2001–02 dollars are projected to

- increase to $47,400 in 2012–13; and
- increase 6 percent between 2002–03 and 2012–13.

Teacher salaries increased from $43,100 in 1987–88 to $44,900 in 2002–03, an increase of 4 percent.

Constant versus current dollars

Throughout this section, projections of current expenditures and teacher salaries are presented in constant 2001–02 dollars. The reference tables, later in this report, present these data both in constant 2001–02 dollars and in current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI) (table B6 in appendix B). Three alternative sets of projections for the CPI were used, one with each set of projections (low, middle, and high).

Accuracy of Projections

Historically, the average difference between the actual values and the projections of current expenditures, current expenditures per pupil, and teacher salaries has been about 2 percent for projections that are 2 or 3 years out from the year of the last actual data. Projections for years that are further out from the last year with actual data tend to be less accurate. The average difference between the actual values and projections 7 or more years out from the last year with actual data generally has been over 4 percent for current expenditures and current expenditures per pupil and over 8 percent for teacher salaries.

Long-term projections that are economically based, such as projections of current expenditures and teacher salaries, are generally less accurate than long-term demographic projections, such as projections of elementary and secondary enrollment. Recent NCES projections of current expenditures generally have been less accurate than recent NCES projections of public elementary and secondary enrollment but more accurate than projections of teacher salaries. Projections of teacher salaries generally have been less accurate than projections of public elementary and secondary enrollment and similar in accuracy to projections of first professional degrees. See appendix A for further discussion of the accuracy of recent projections of current expenditures and teacher salaries, and see table A2 in appendix A for the mean absolute percentage errors (MAPEs) of these projections.

Section 7. Expenditures of Public Degree-Granting Postsecondary Institutions

Introduction

Current-fund expenditures in both public 4-year degree-granting institutions and public 2-year degree-granting institutions are projected to increase in constant dollars between school years 1999–2000 and 2012–13.

Three alternative sets of projections

Middle, low, and high sets of projections were produced for total current-fund expenditures as well as educational and general expenditures for both public 4-year and public 2-year degree-granting institutions.

About the projections

Each set of projections is based on alternative assumptions concerning economic growth and receipts to state and local governments. Many other factors that may affect future expenditures were not considered in the production of these projections. See appendix A for more details.

Public Institutions

Between 1999–2000 and 2012–13, increases are expected in the current-fund expenditures of public degree-granting institutions (figure L; reference figure 36 and tables 36 and 38).

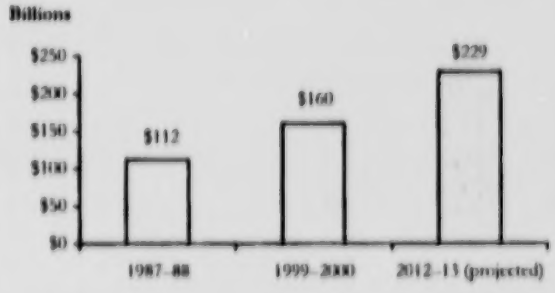
Current-fund expenditures

Current-fund expenditures in constant 2001–02 dollars of 4-year and 2-year degree-granting institutions combined increased 43 percent from 1987–88 to 1999–2000.

From 1999–2000 to 2012–13, current-fund expenditures in constant 2001–02 dollars are projected to increase

- 43 percent, to $229 billion, in the middle alternative projections;
- 32 percent, to $212 billion, in the low alternative projections; and
- 51 percent, to $241 billion, in the high alternative projections.

Figure L. Current-fund expenditures of public degree-granting institutions, with middle alternative projections: Selected years



NOTE: Data were placed in constant 2001–02 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).

SOURCE: U.S. Dept. of Education, NCES. Integrated Postsecondary Education Data System (IPEDS), "Finance Survey," various years; and Expenditures in Degree-Granting Institutions Model. (See reference tables 36 and 38.)

Public 4-Year Institutions

Between 1999–2000 and 2012–13, increases are expected in the current-fund expenditures and the educational and general expenditures of public 4-year degree-granting institutions (figure M; reference figure 36 and tables 36 and 37). Both overall increases and increases per student in full-time-equivalent (FTE) enrollment are expected.

Current-fund expenditures

Current-fund expenditures in constant 2001–02 dollars increased 42 percent from 1987–88 to 1999–2000.

From 1999–2000 to 2012–13, public 4-year institutions' current-fund expenditures in constant 2001–02 dollars are projected to increase

- 43 percent, to $188 billion, in the middle alternative projections;
- 35 percent, to $178 billion, in the low alternative projections; and
- 49 percent, to $196 billion, in the high alternative projections.

Current-fund expenditures per student

Current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment increased 26 percent from 1987–88 to 1999–2000.

From 1999–2000 to 2012–13, current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment are projected to increase

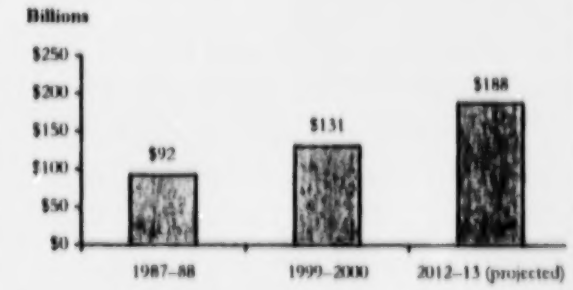
- 16 percent, to $30,800, in the middle alternative projections;
- 12 percent, to $29,900, in the low alternative projections; and
- 16 percent, to $31,000, in the high alternative projections.

Educational and general expenditures

In the middle alternative projections, from 1999–2000 to 2012–13, educational and general expenditures in constant 2001–02 dollars are projected to increase

- 38 percent overall, from $99 billion to $136 billion; and
- 12 percent per student in FTE enrollment, from $20,000 to $22,300.

Figure M. Current-fund expenditures of public 4-year degree-granting institutions, with middle alternative projections: Selected years



NOTE: Data were placed in constant 2001–02 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).

SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Finance Survey," various years; and Expenditures in Degree-Granting Institutions Model. (See reference table 36.)

Projections for public institutions only

Projections are presented for public institutions only. This is because private institutions began using a new accounting model to report financial data beginning with data for 1996–97, and there is not yet enough data to produce projections with the new accounting model. The new model measures economic changes, while the old model measured financial flows. Also, the terms current-fund expenditures and educational and general expenditures are not used in the new accounting model for private institutions.

A subset of current-fund expenditures

Educational and general expenditures consist of those current-fund expenditures that are for activities directly related to the education of students. Expenditures for such activities as auxiliary enterprises (e.g., student dormitories, cafeterias, and bookstores) and university hospitals are excluded from educational and general expenditures but are included in total current-fund expenditures.

Public 2-Year Institutions

Between 1999–2000 and 2012–13, increases are expected in the current-fund expenditures and the educational and general expenditures of public 2-year degree-granting institutions (figure N; reference tables 38 and 39). Both overall increases and increases per student in FTE enrollment are expected.

Current-fund expenditures

Current-fund expenditures in constant 2001–02 dollars increased 50 percent from 1987–88 to 1999–2000.

From 1999–2000 to 2012–13, public 2-year institutions' current-fund expenditures in constant 2001–02 dollars are projected to increase

- 40 percent, to $41 billion, in the middle alternative projections;
- 18 percent, to $34 billion, in the low alternative projections; and
- 56 percent, to $45 billion, in the high alternative projections.

Current-fund expenditures per student

Current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment increased 24 percent from 1987–88 to 1999–2000.

From 1999–2000 to 2012–13, current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment are projected to

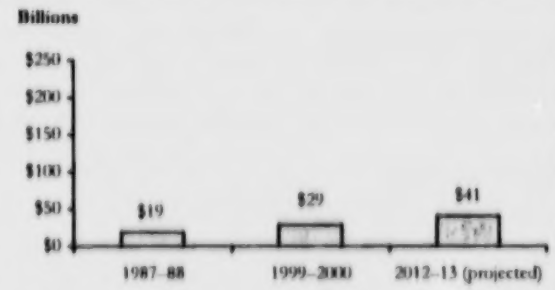
- increase 16 percent, to $10,800, in the middle alternative projections;
- decrease less than 1 percent, to $9,300, in the low alternative projections; and
- increase 24 percent, to $11,600, in the high alternative projections.

Educational and general expenditures

In the middle alternative projections, from 1999–2000 to 2012–13, educational and general expenditures in constant 2001–02 dollars are projected to increase

- 42 percent overall, from $27 billion to $38 billion; and
- 16 percent per student in FTE enrollment, from $8,800 to $10,300.

Figure N. Current-fund expenditures of public 2-year degree-granting institutions, with middle alternative projections: Selected years



NOTE: Data were placed in constant 2001–02 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).

SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Finance Survey," various years; and Expenditures in Degree-Granting Institutions Model. (See reference table 38.)

Constant versus current dollars

Throughout this section, projections of current-fund expenditures and educational and general expenditures are presented in constant 2001–02 dollars. The reference tables, later in this report, present these data both in constant 2001–02 dollars and in current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI) (table B6 in appendix B). Three alternative sets of projections for the CPI were used, one with each set of projections (low, middle, and high).

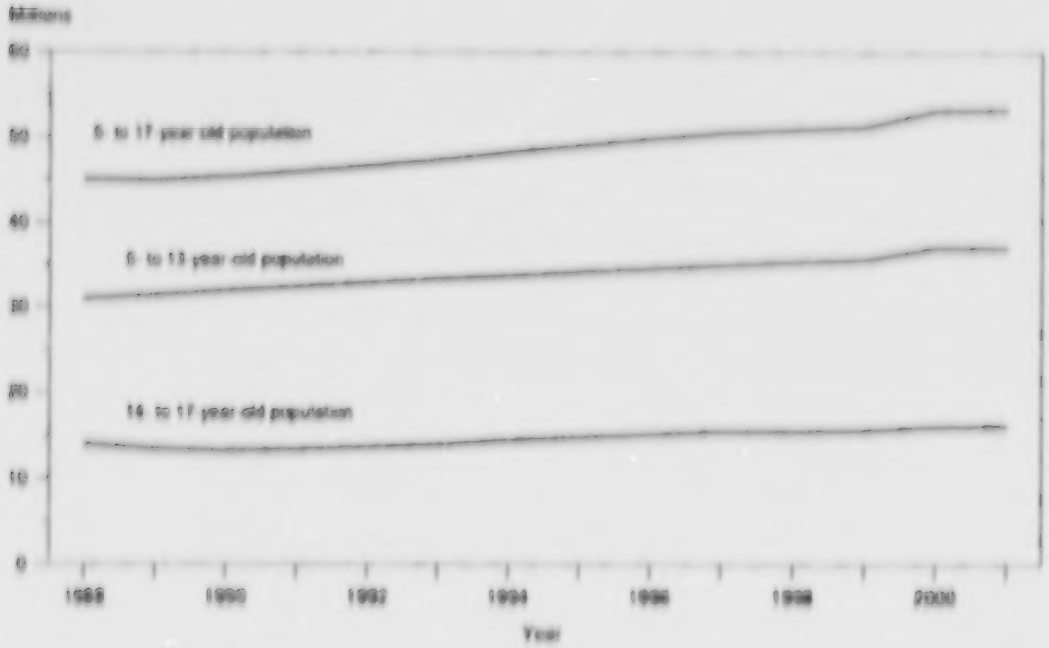
Accuracy of Projections

Historically, the average difference between the actual values and the projections of current-fund expenditures of public degree-granting institutions has been about 2 percent for projections that are 2 or 3 years out from the year of the last actual data. Projections for years that are further out from the last year with actual data tend to be less accurate. The average difference between the actual values and projections 7 or more years out from the last year with actual data generally has been about 3 percent for both current-fund expenditures of public 4-year institutions and current-fund expenditures of public 2-year institutions.

Long-term projections that are economically based, such as projections of expenditures, are generally less accurate than long-term demographic projections, such as projections of elementary and secondary enrollment. NCES projections of current-fund expenditures of public degree-granting institutions produced over the last 8 years generally have been less accurate than recent NCES projections of public elementary and secondary enrollment. They have been more accurate than projections of teacher salaries. They have been similar in accuracy to projections of current expenditures in elementary and secondary schools. See appendix A for further discussion of the accuracy of recent projections of expenditures of public degree-granting institutions, and see table A2 in appendix A for the mean absolute percentage errors (MAPEs) of these projections.

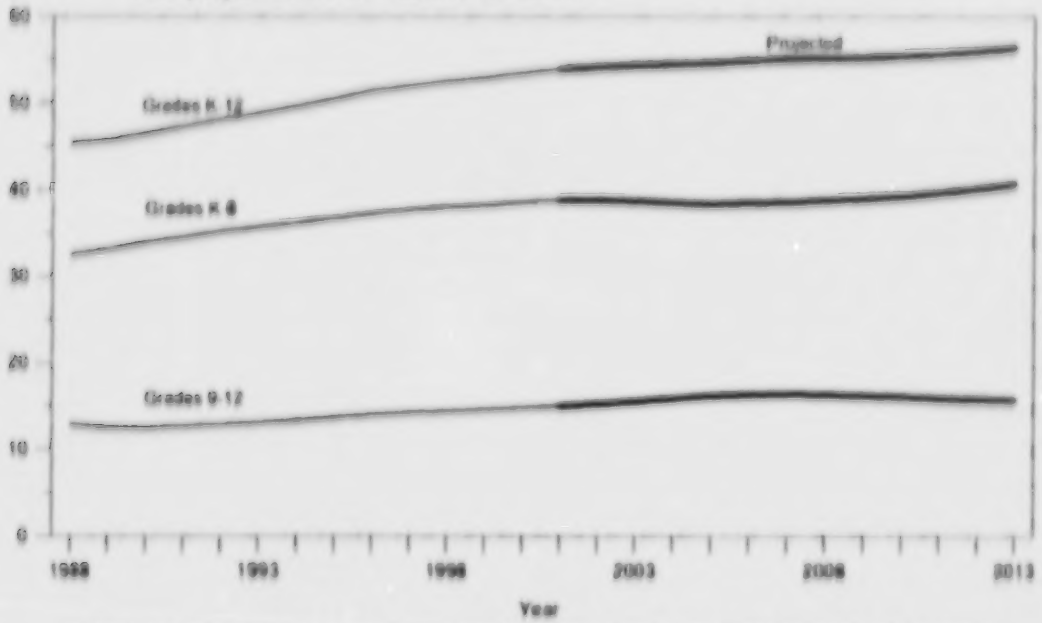
Reference Figures and Tables

Figure 1. School-age populations: 1988 to 2001



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092 and 1095, and previously unpublished tabulations.

Figure 2. Enrollment in elementary and secondary schools, by grade level, with projections: Fall 1988 to fall 2013



SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD) "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; Private School Universe Survey (PSS), various years; 1995 Private School Survey; and National Elementary and Secondary Enrollment Model.

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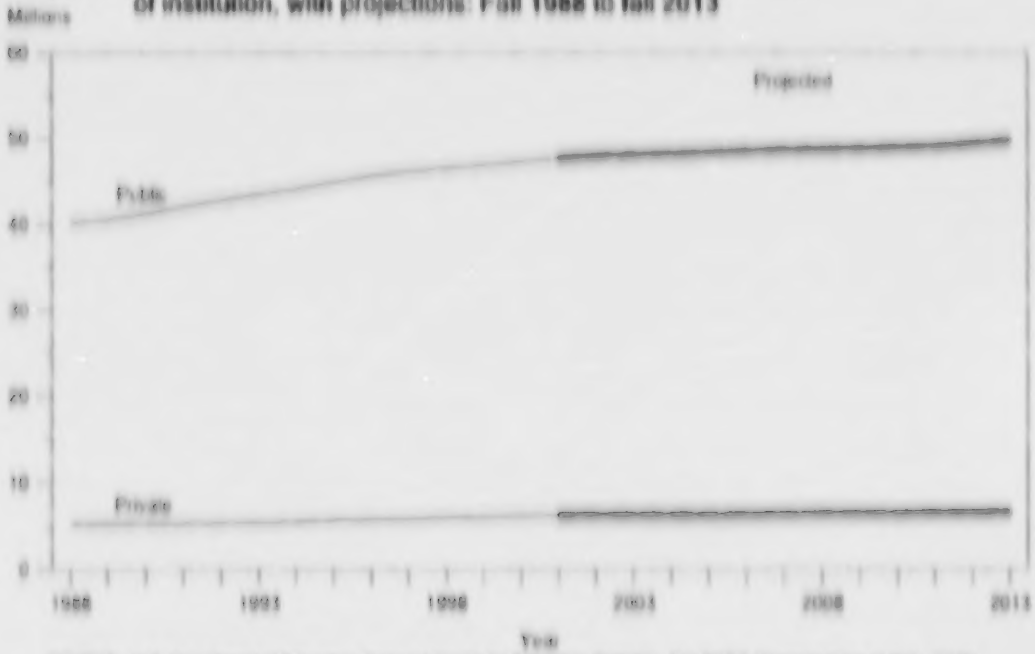
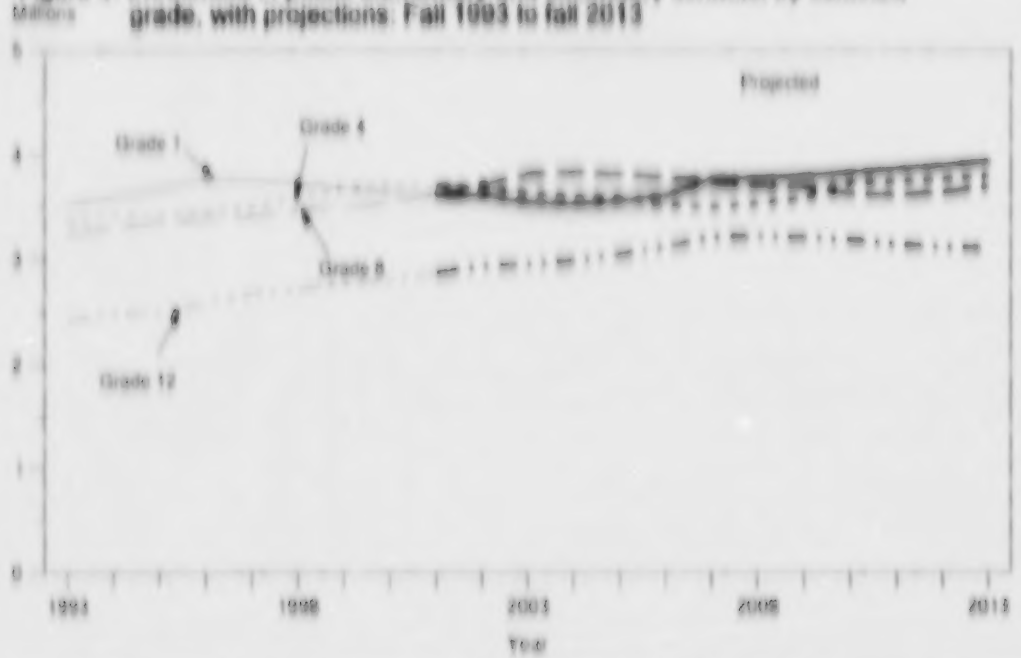
Figure 3. Enrollment in elementary and secondary schools, by control of institution, with projections: Fall 1988 to fall 2013



SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; Private School Universe Survey (PSS), various years; 1995 Private School Survey; and National Elementary and Secondary Enrollment Model

Figure 4. Enrollment in public elementary and secondary schools, by selected grade, with projections: Fall 1993 to fall 2013



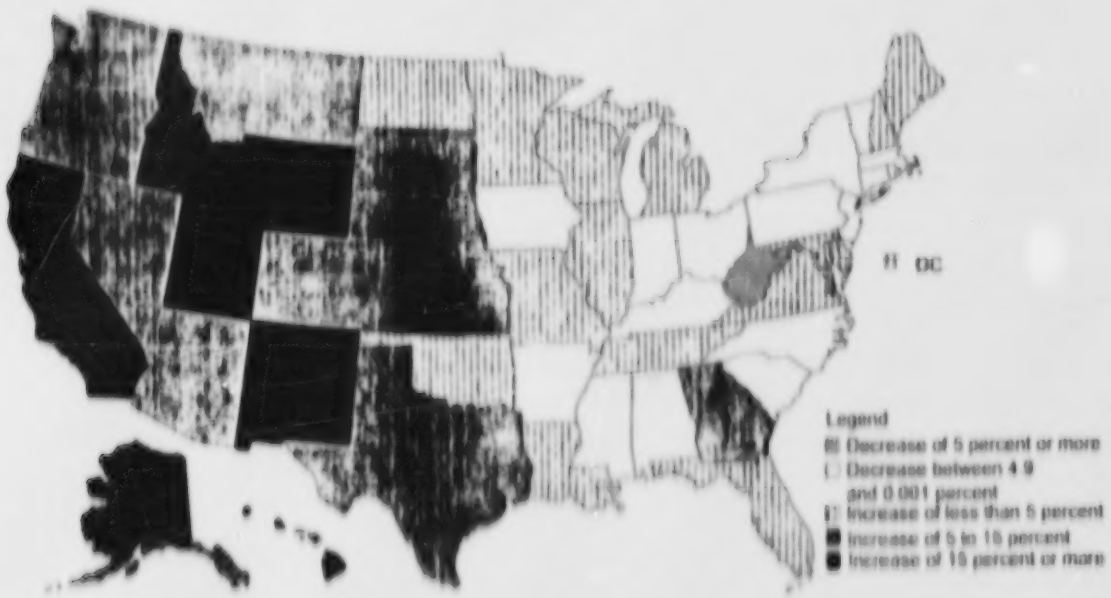
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, and National Elementary and Secondary Enrollment Model

Figure 5. Percent change in grades K-12 enrollment in public schools, by state: Fall 2001 to fall 2013

DC
Legend
Decrease of 5 percent or more
Decrease between 4.9 and 0.001 percent
Increase of less than 5 percent
Increase of 5 to 15 percent
Increase of 15 percent or more

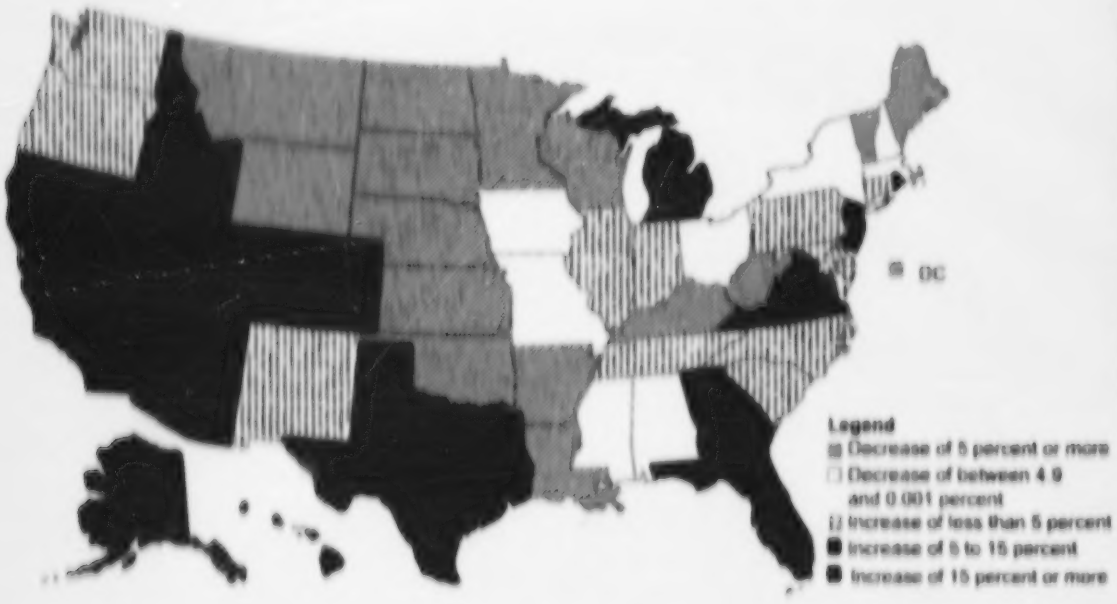
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2001-02, and State Public Elementary and Secondary Enrollment Model

Figure 6. Percent change in grades K-8 enrollment in public schools, by state: Fall 2001 to fall 2013


DC
Legend
Decrease of 5 percent or more
Decrease between 4.9 and 0.001 percent
Increase of less than 5 percent
Increase of 5 to 15 percent
Increase of 15 percent or more

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2001-02, and State Public Elementary and Secondary Enrollment Model

Figure 7. Percent change in grades 9-12 enrollment in public schools, by state: Fall 2001 to fall 2013

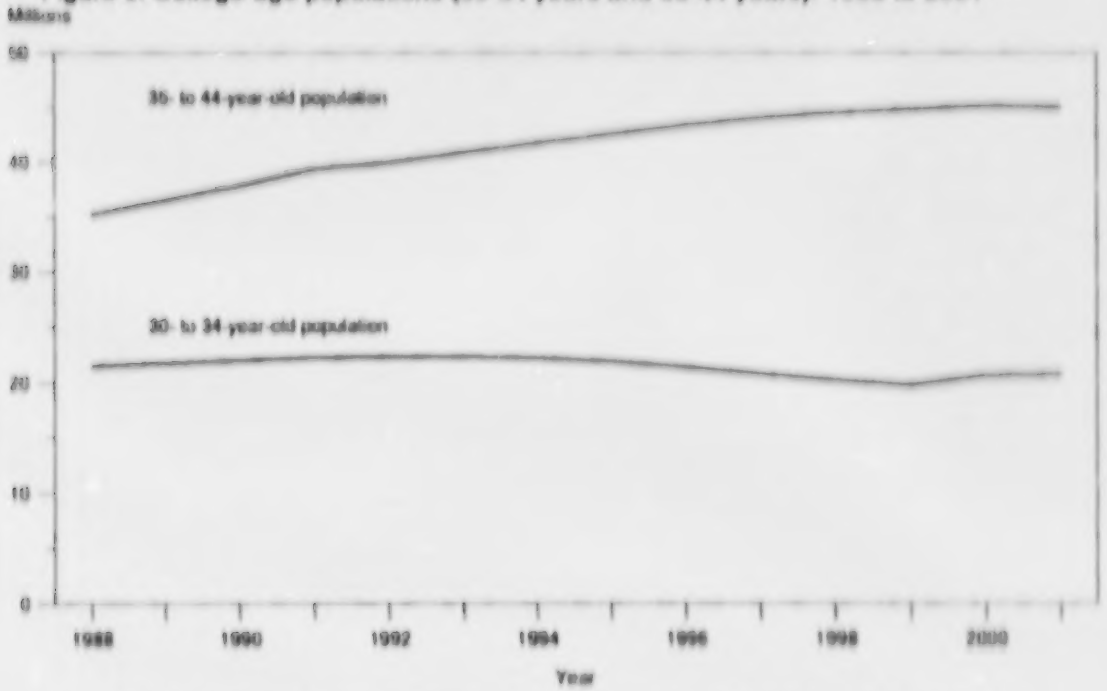

DC
Legend
Decrease of 5 percent or more
Decrease of between 4.9 and 0.001 percent
Increase of less than 5 percent
Increase of 5 to 15 percent
Increase of 15 percent or more

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2001-02, and State Public Elementary and Secondary Enrollment Model

Figure 8. College-age populations (18-24 years and 25-29 years): 1988 to 2001

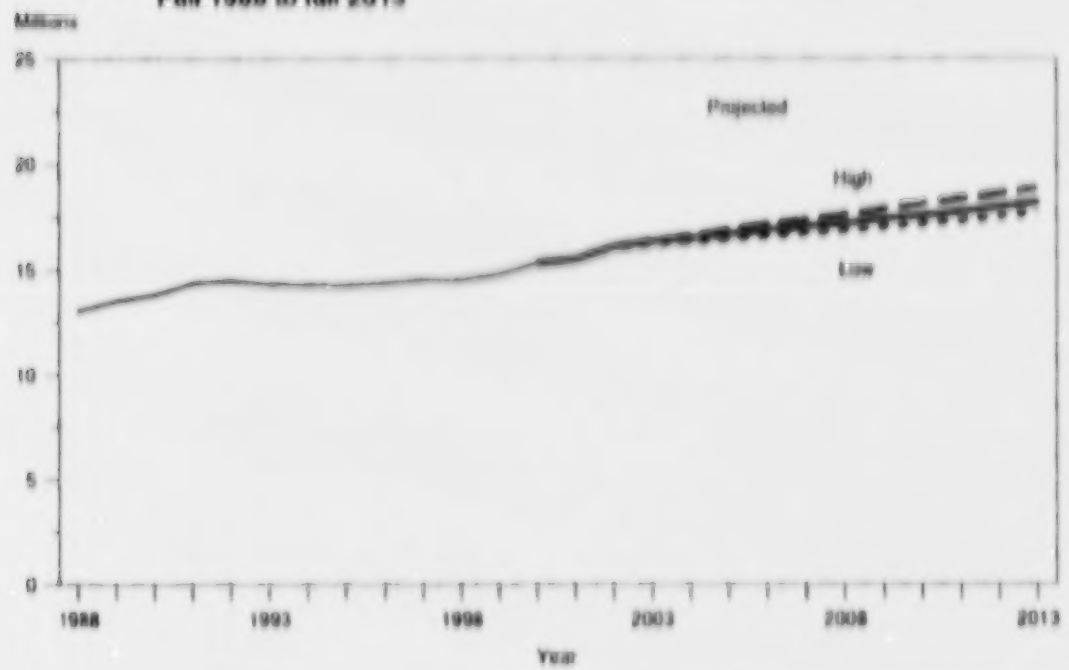
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, Nos. 1092 and 1095, and previously unpublished tabulations

Figure 9. College-age populations (30-34 years and 35-44 years): 1988 to 2001



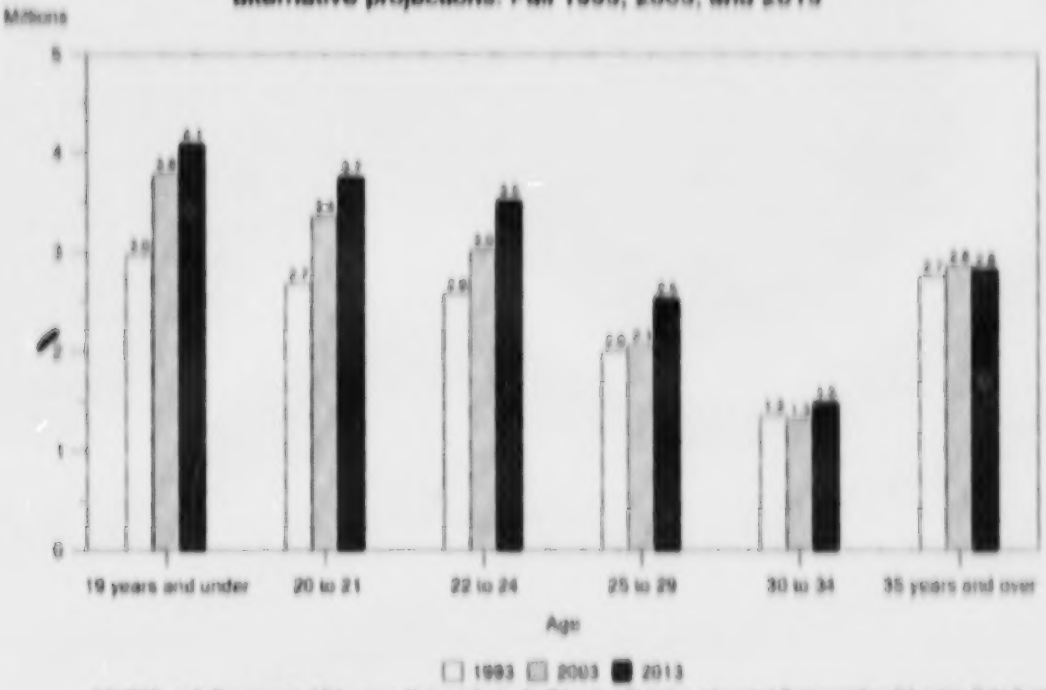
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092 and 1095, and previously unpublished tabulations.

Figure 10. Enrollment in degree-granting institutions, with alternative projections: Fall 1988 to fall 2013



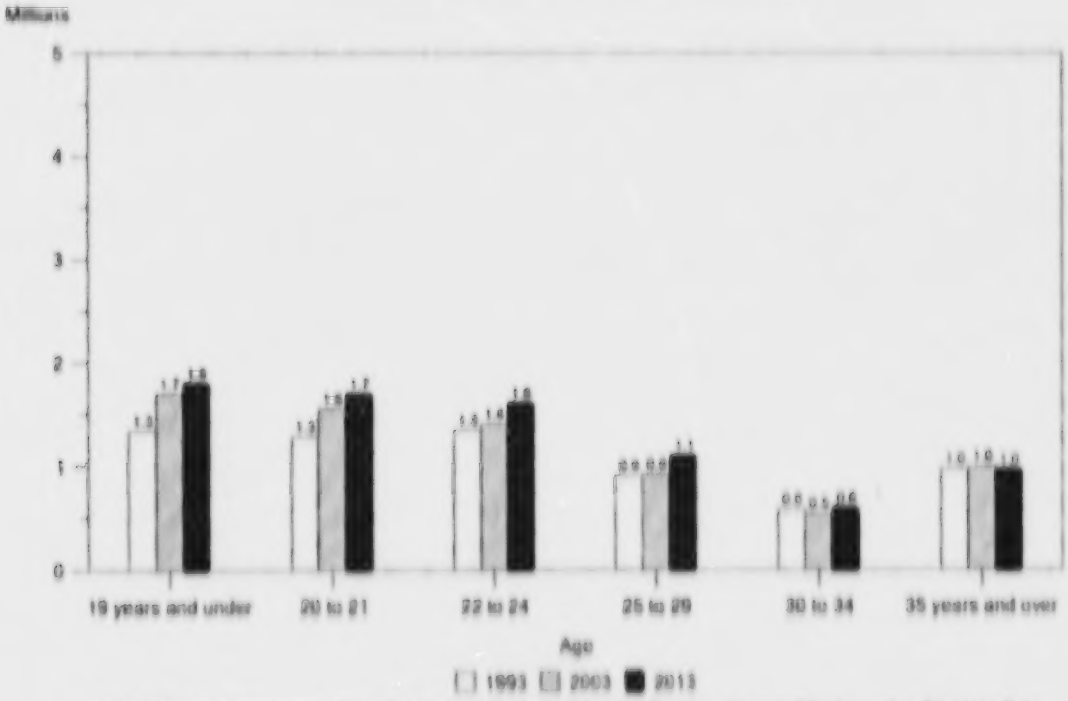
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 11. Enrollment in degree-granting institutions, by age group, with middle alternative projections: Fall 1993, 2003, and 2013



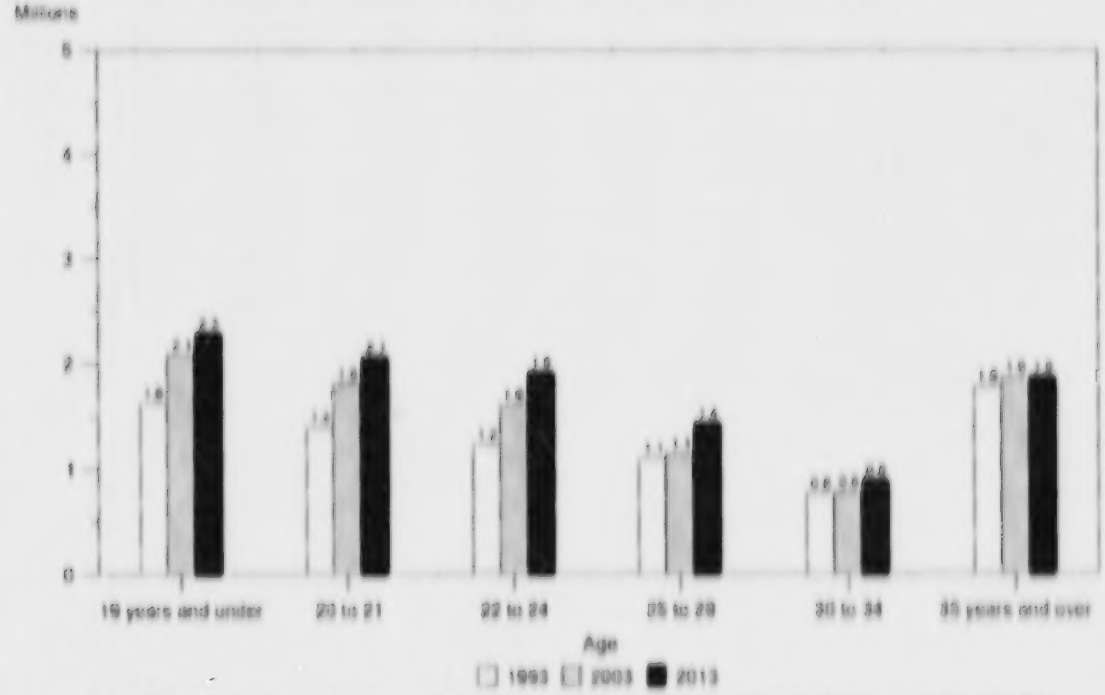
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years.

Figure 12. Enrollment of men in degree-granting institutions, by age group, with middle alternative projections: Fall 1993, 2003, and 2013



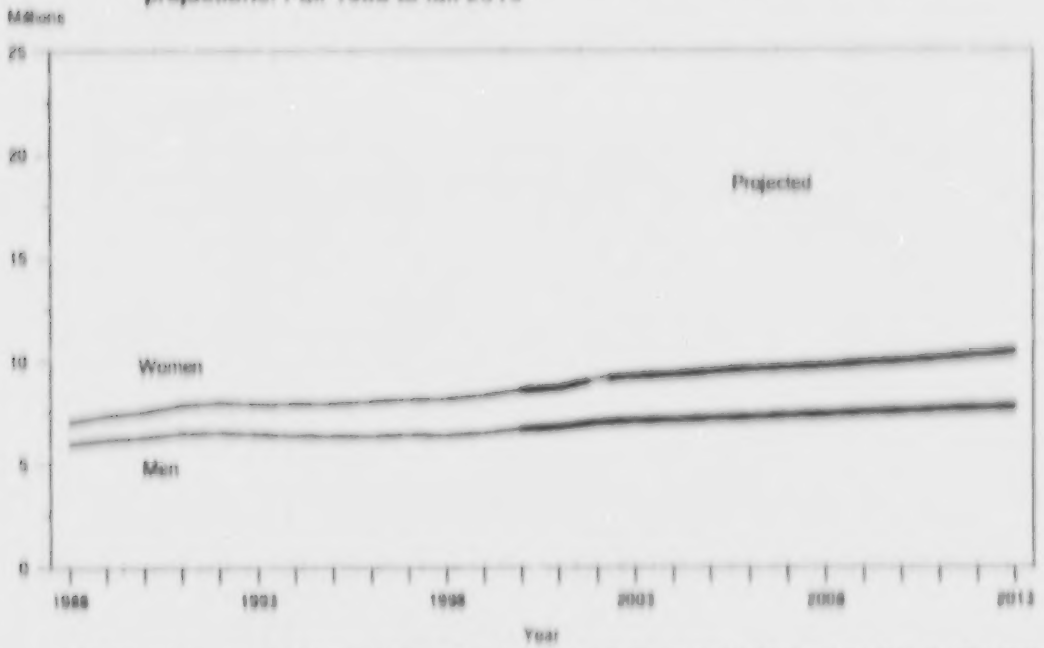
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years.

Figure 13. Enrollment of women in degree-granting institutions, by age group, with middle alternative projections: Fall 1993, 2003, and 2013



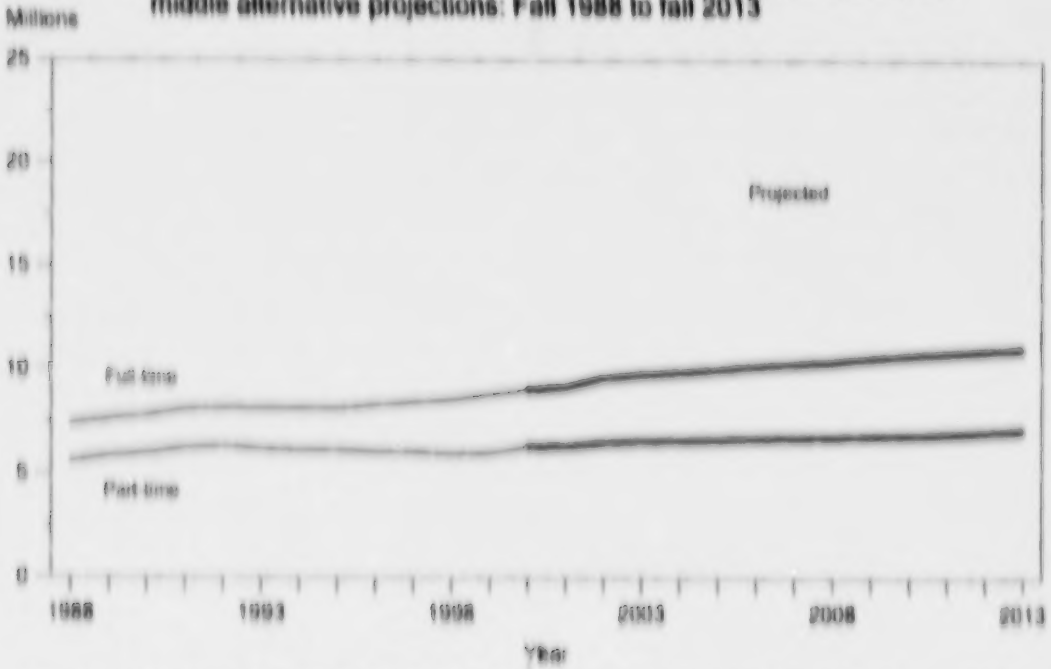
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years.

Figure 14. Enrollment in degree-granting institutions, by sex, with middle alternative projections: Fall 1988 to fall 2013



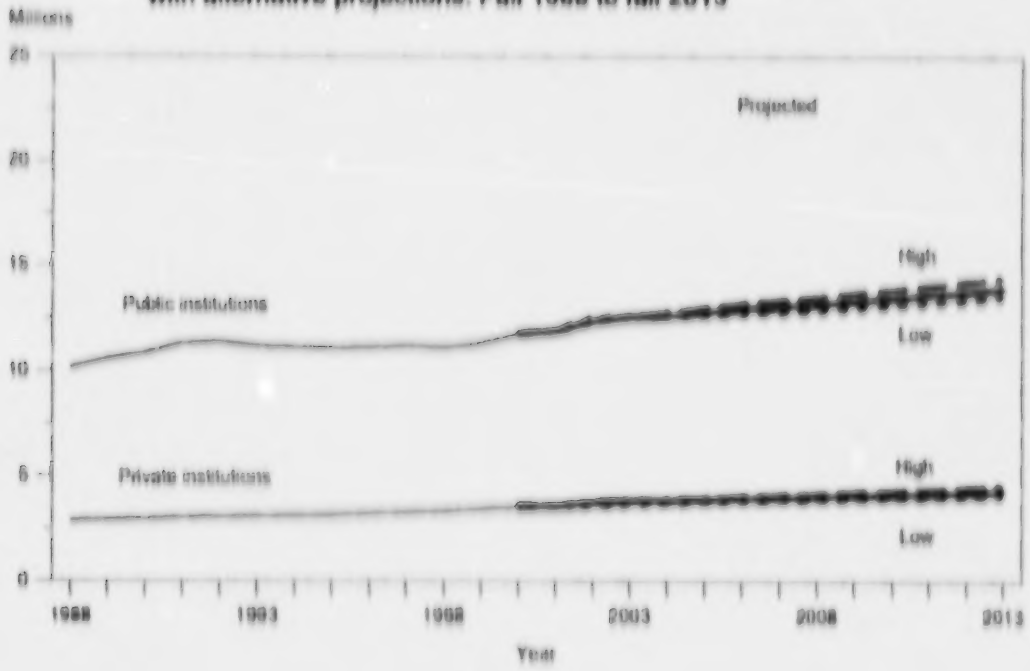
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 15. Enrollment in degree-granting institutions, by attendance status, with middle alternative projections: Fall 1988 to fall 2013



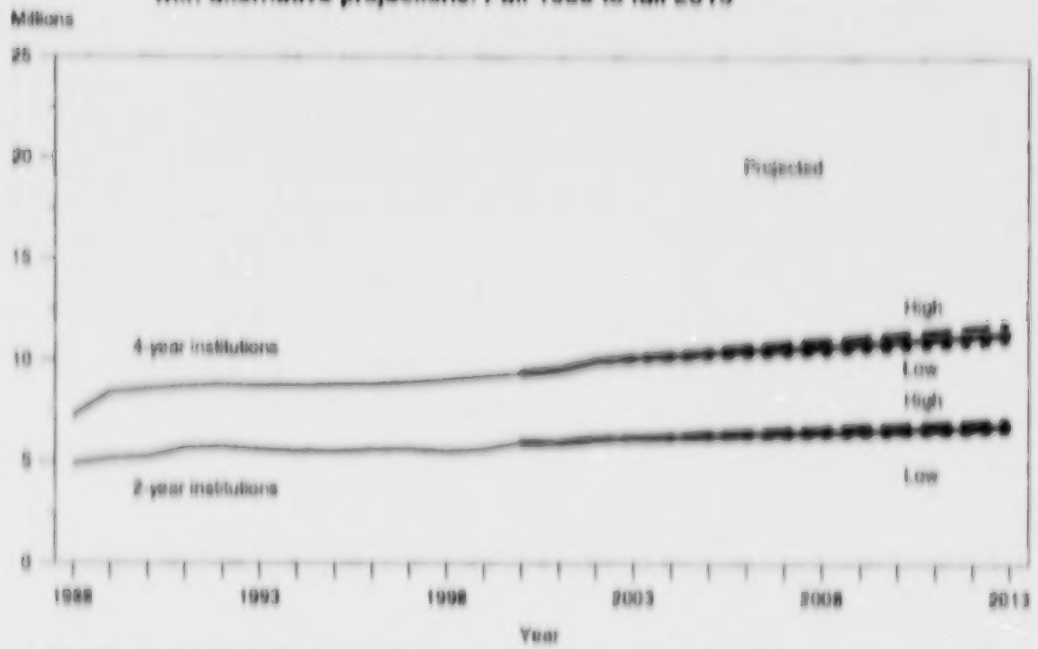
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 16. Enrollment in degree-granting institutions, by control of institution, with alternative projections: Fall 1988 to fall 2013



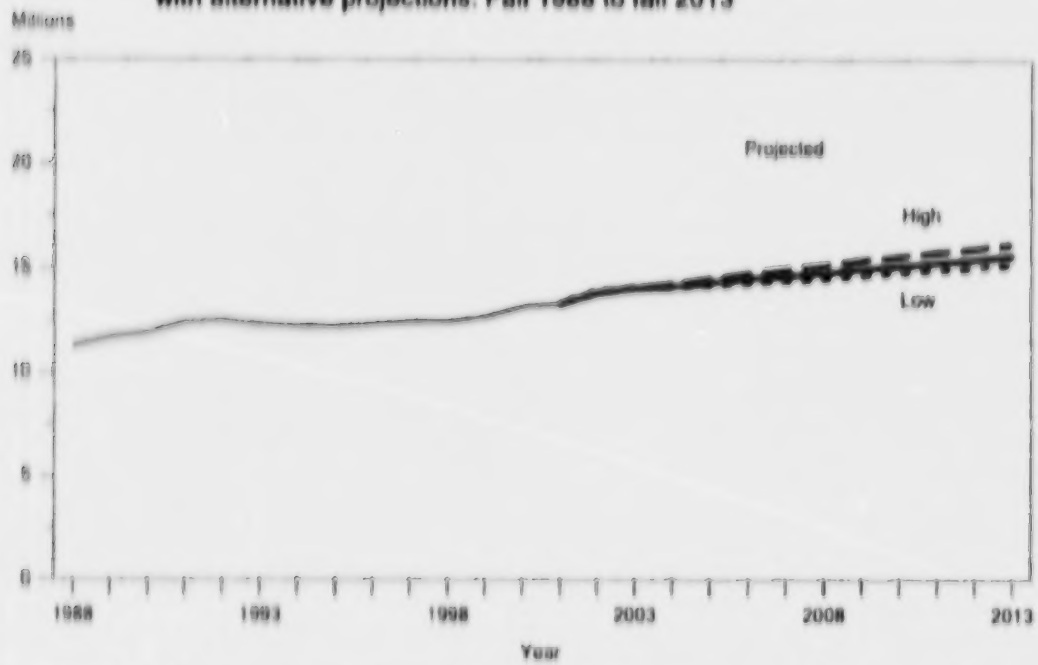
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 17. Enrollment in degree-granting institutions, by type of institution, with alternative projections: Fall 1988 to fall 2013



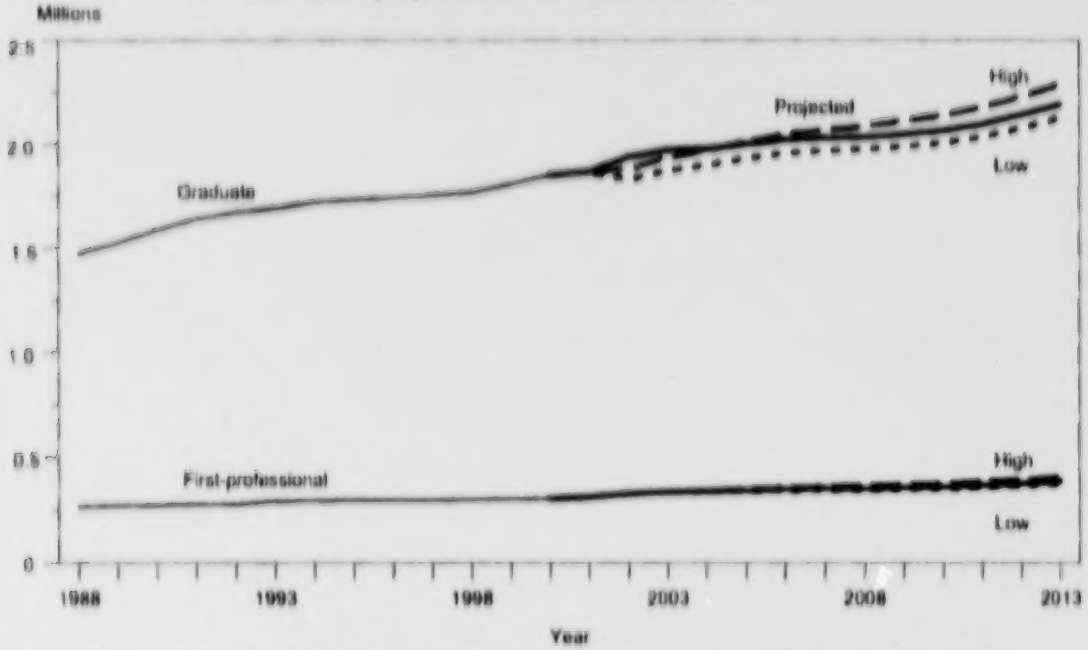
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 18. Undergraduate enrollment in degree-granting institutions, with alternative projections: Fall 1988 to fall 2013



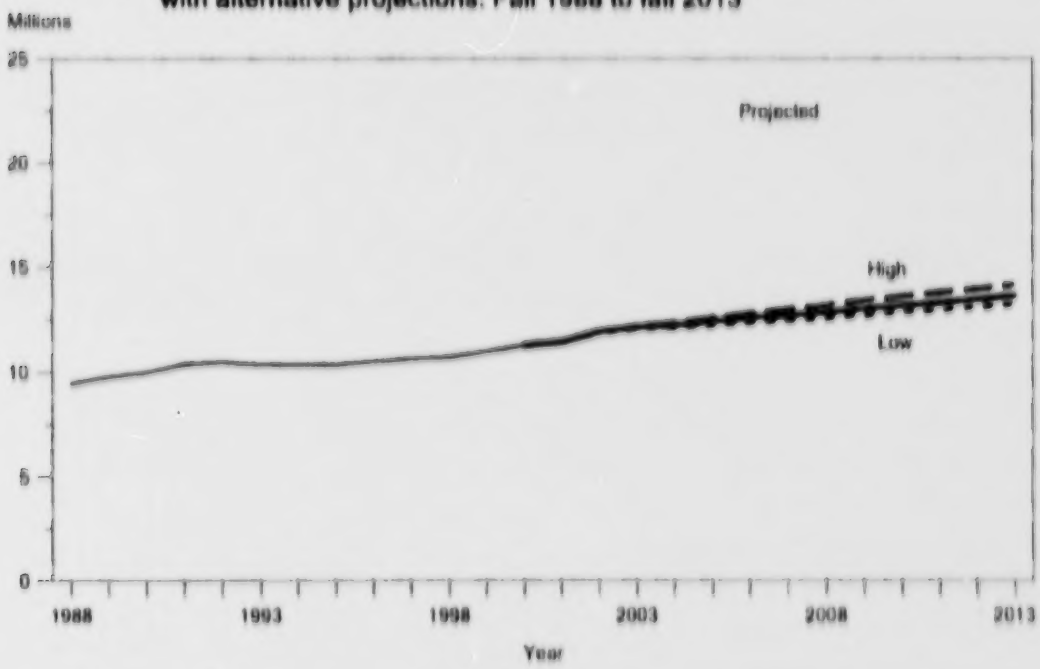
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 19. Postbaccalaureate enrollment in degree-granting institutions, with alternative projections: Fall 1988 to fall 2013



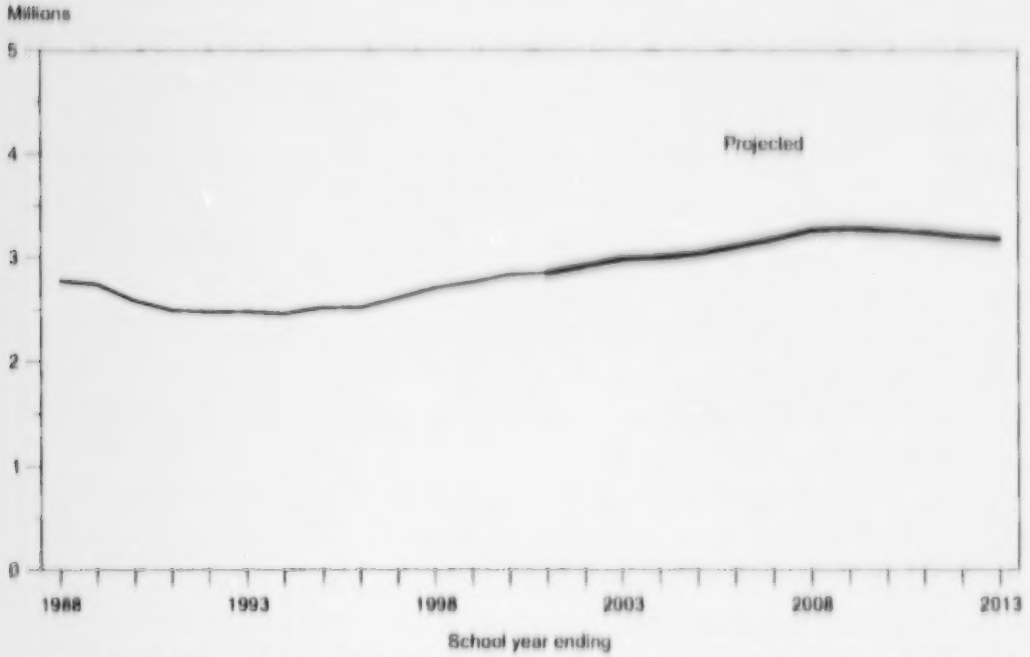
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 20. Full-time-equivalent enrollment in degree-granting institutions, with alternative projections: Fall 1988 to fall 2013



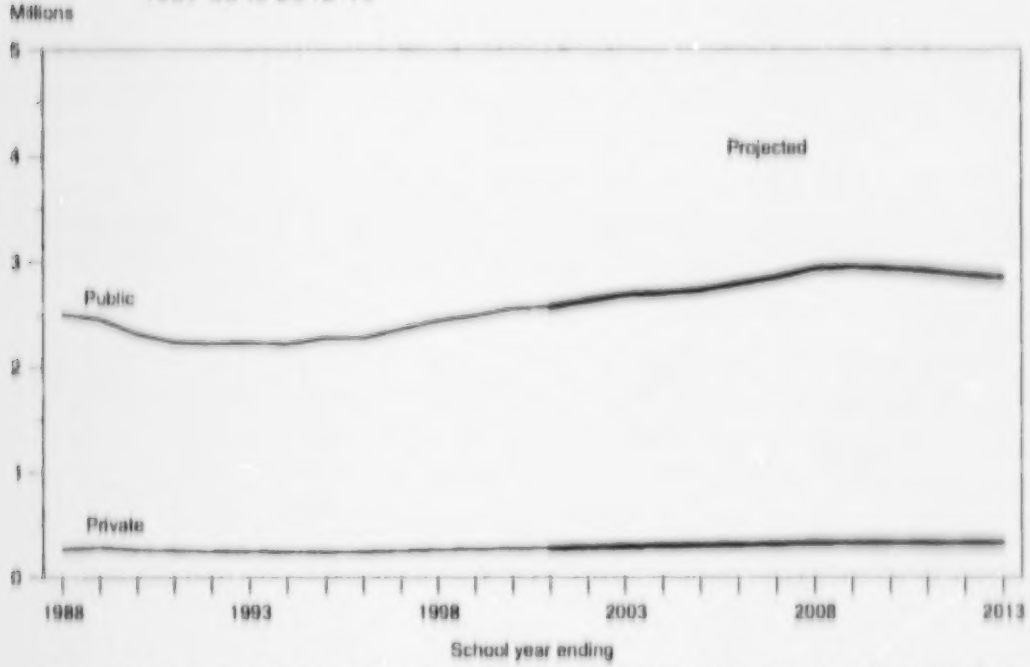
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model.

Figure 21. High school graduates, with projections: 1987-88 to 2012-13



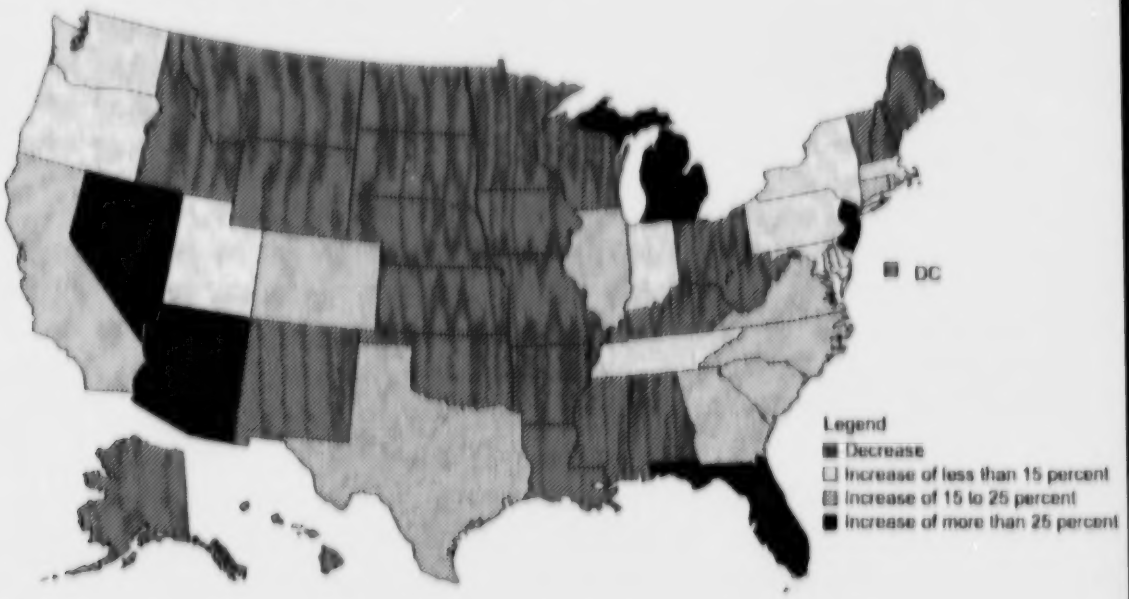
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Universe Survey (PSS), various years; Private School Survey Early Estimates, various years; 1985 Private School Survey; and National Elementary and Secondary High School Graduates Enrollment Model.

Figure 22. High school graduates, by control of institution, with projections: 1987-88 to 2012-13



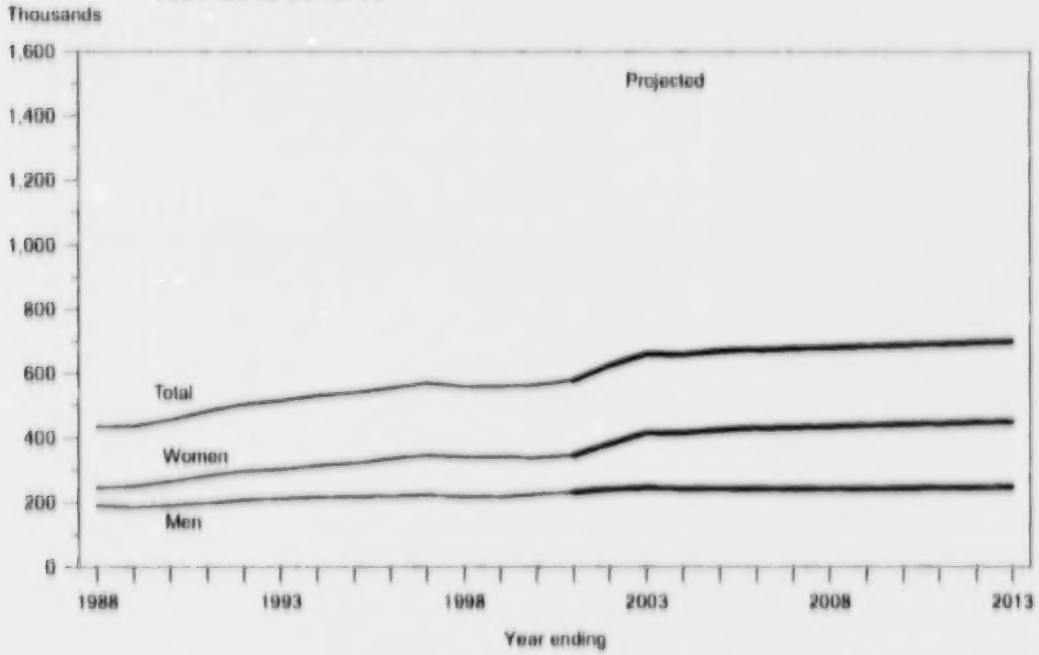
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Universe Survey (PSS), various years; Private School Survey Early Estimates, various years; 1985 Private School Survey; and National Elementary and Secondary High School Graduates Enrollment Model.

Figure 23. Percent change in number of public high school graduates, by state: 2000-01 to 2012-13



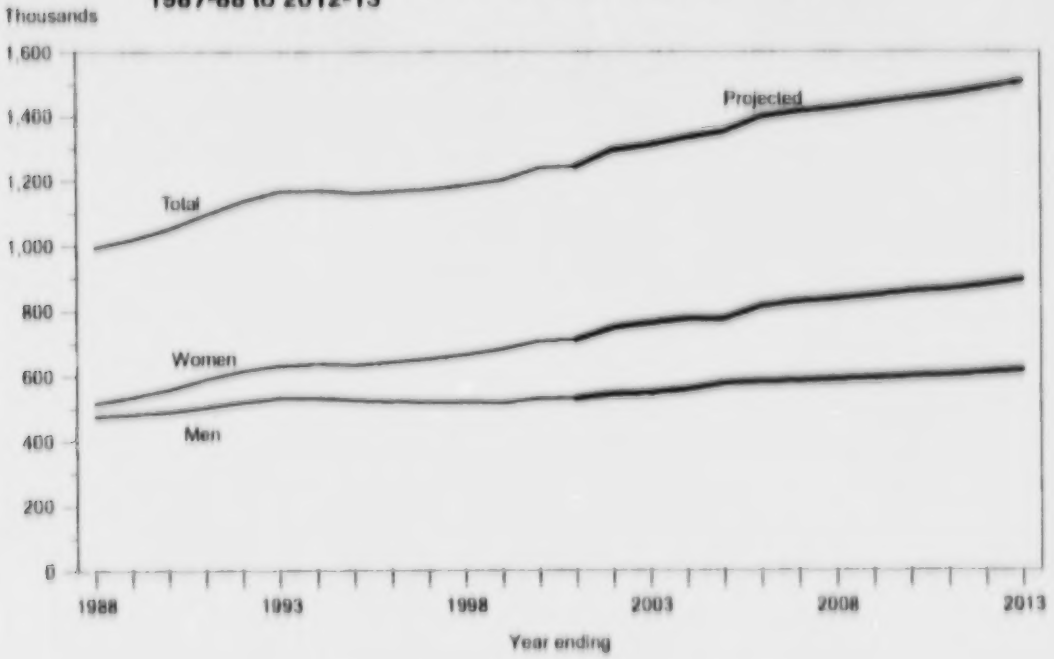
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; and State Public High School Graduates Model.

Figure 24. Associate's degrees, by sex of recipient, with projections: 1987-88 to 2012-13



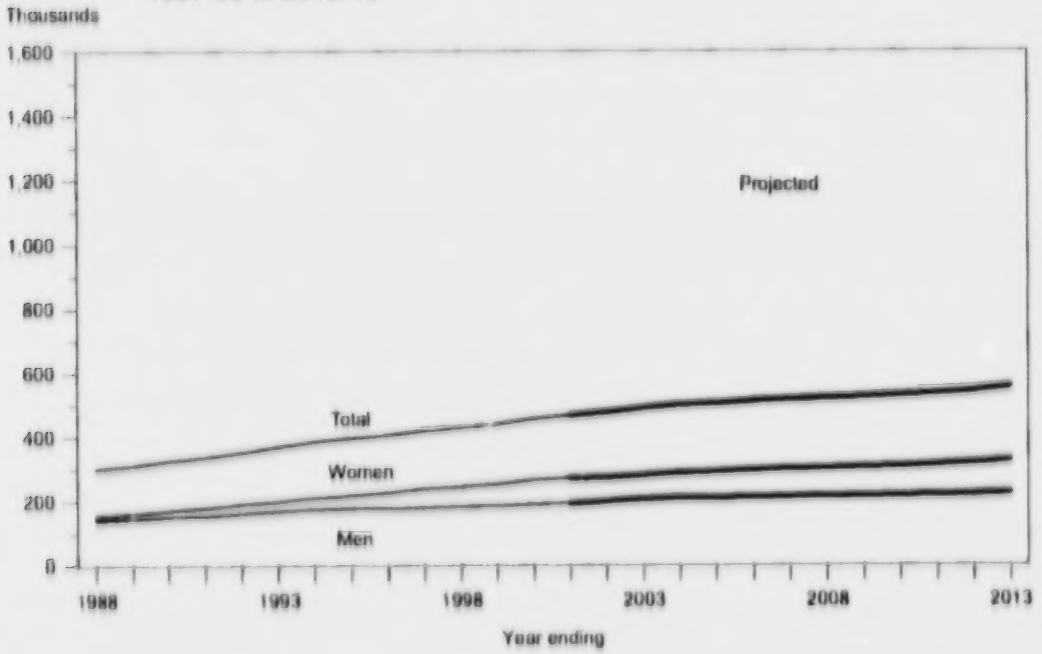
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model.

Figure 25. Bachelor's degrees, by sex of recipient, with projections 1987-88 to 2012-13



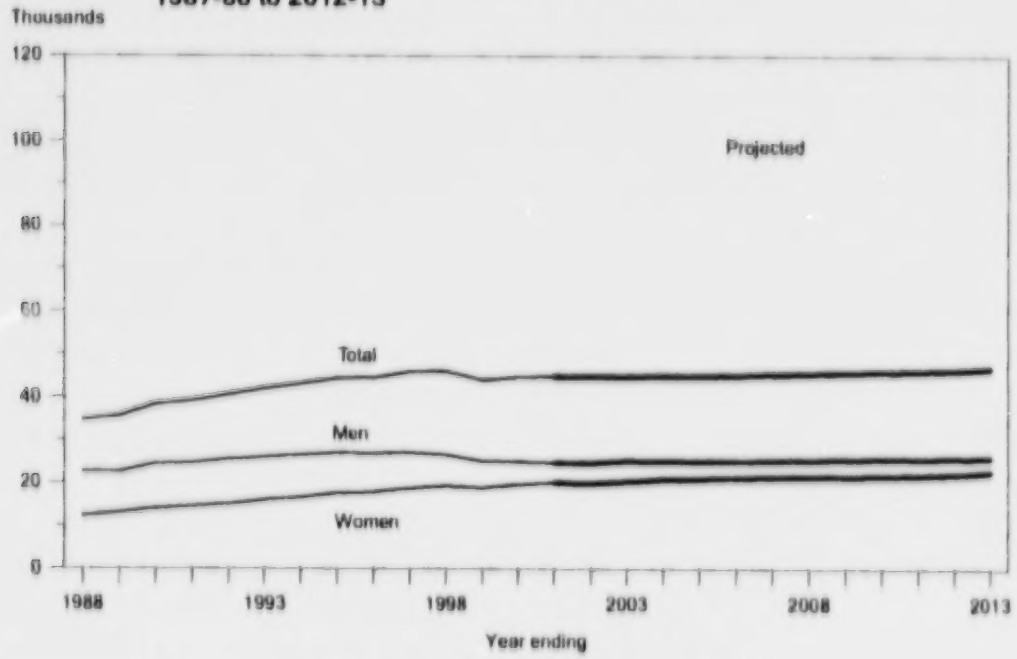
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model.

Figure 26. Master's degrees, by sex of recipient, with projections: 1987-88 to 2012-13



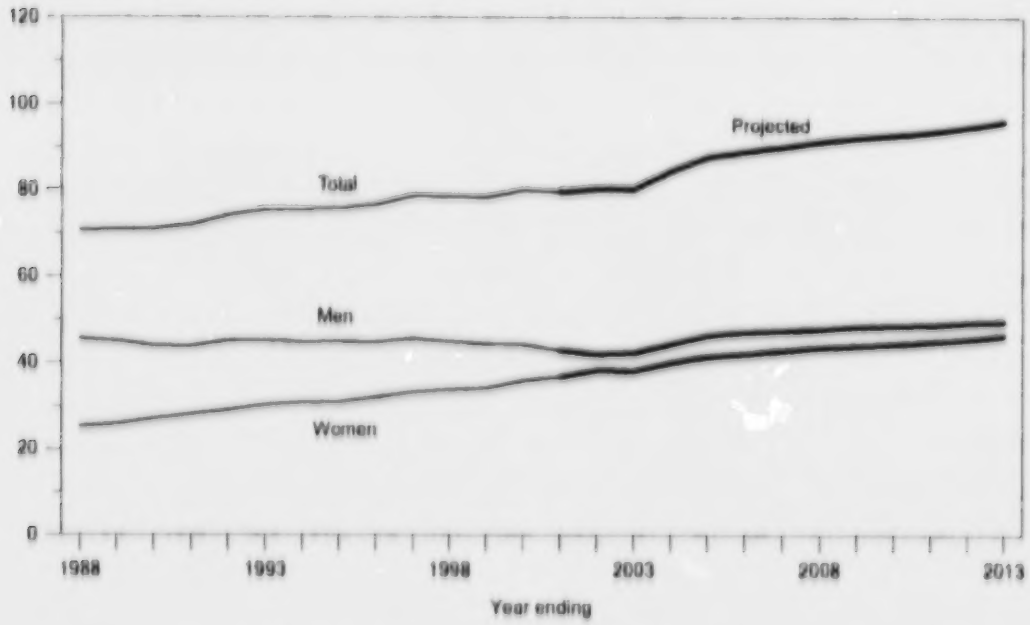
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model.

Figure 27. Doctor's degrees, by sex of recipient, with projections: 1987-88 to 2012-13



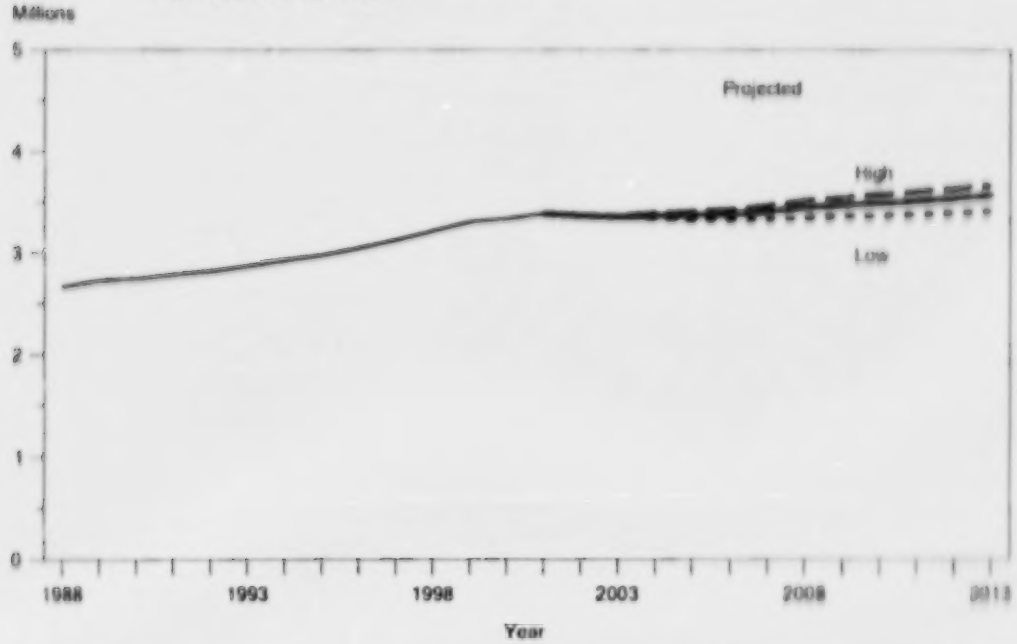
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model.

Figure 28. First-professional degrees, by sex of recipient, with projections: 1987-88 to 2012-13



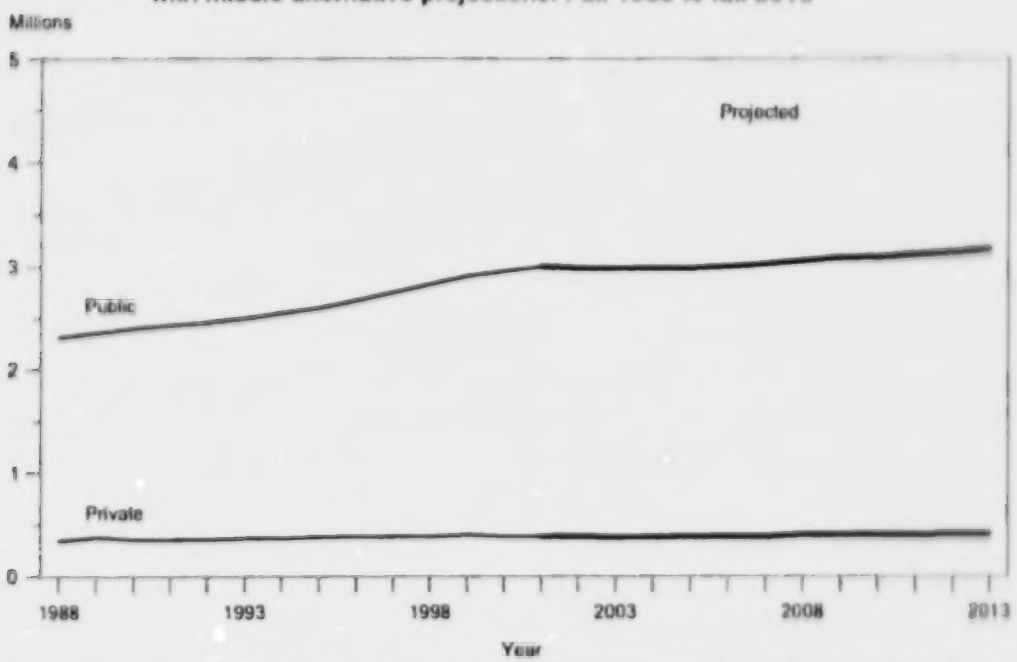
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model.

Figure 29. Elementary and secondary teachers, with alternative projections; Fall 1988 to fall 2013



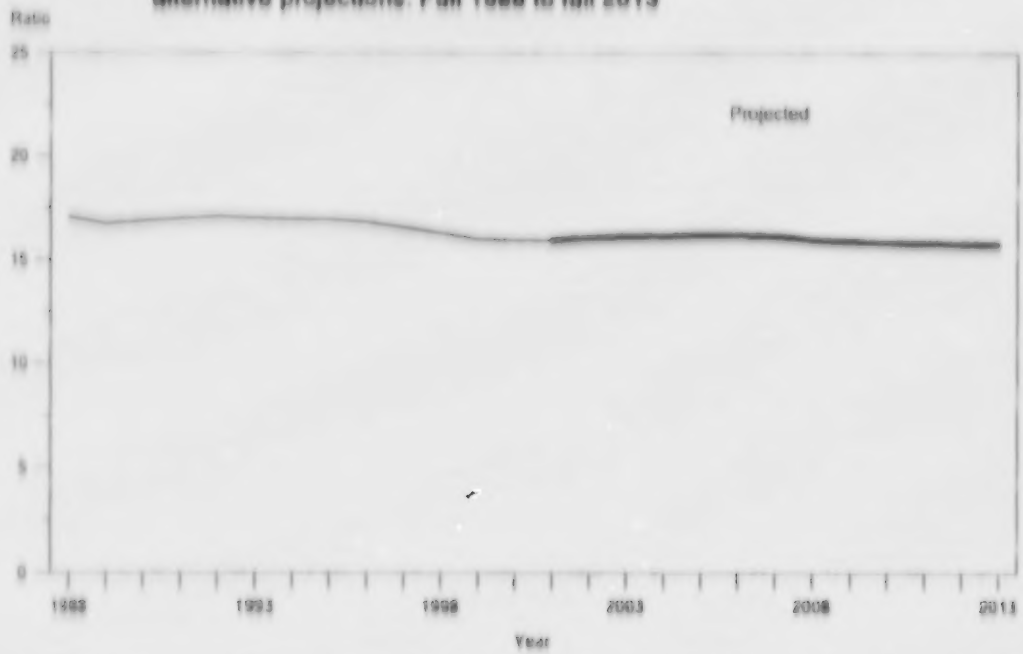
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Survey Early Estimates, various years, and Elementary and Secondary Teacher Model.

Figure 30. Elementary and secondary teachers, by control of institution, with middle alternative projections: Fall 1988 to fall 2013



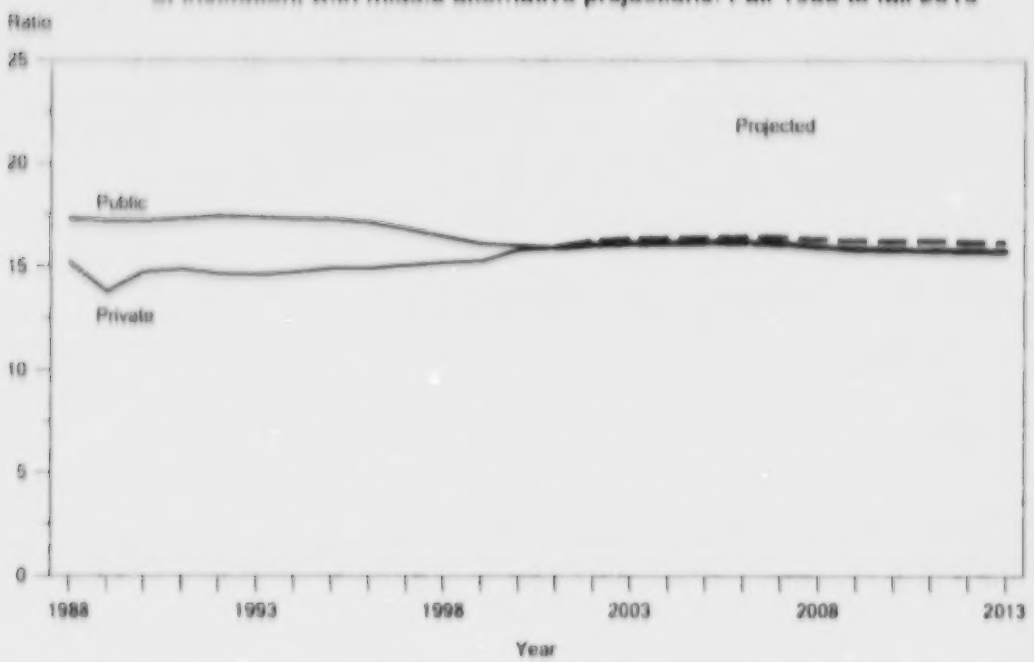
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Survey Early Estimates, various years, and Elementary and Secondary Teacher Model.

Figure 31. Pupil/teacher ratios in elementary and secondary schools, with middle alternative projections: Fall 1988 to fall 2013



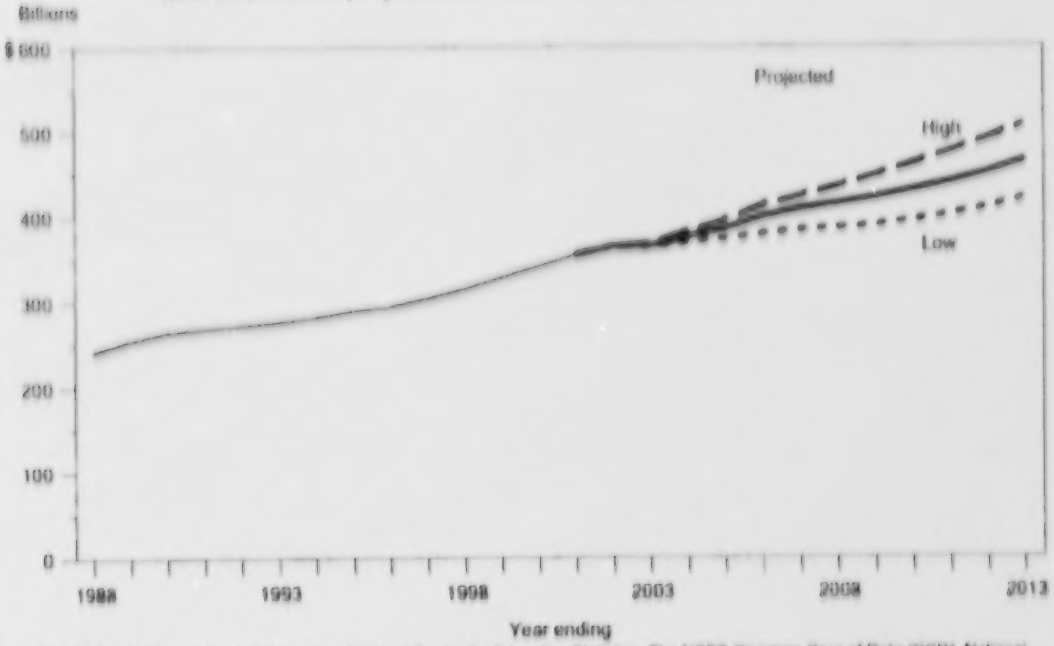
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Survey Early Estimates, various years; and Elementary and Secondary Teacher Model.

Figure 32. Pupil/teacher ratios in elementary and secondary schools, by control of institution, with middle alternative projections: Fall 1988 to fall 2013



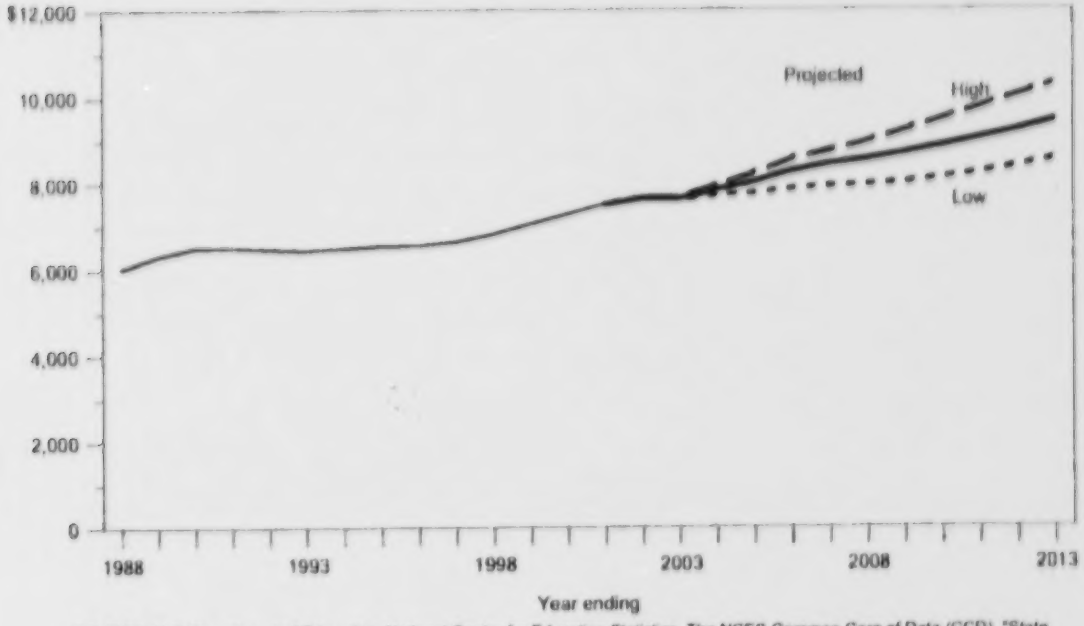
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Survey Early Estimates, various years; and Elementary and Secondary Teacher Model.

Figure 33. Current expenditures of public schools (in constant 2001-02 dollars), with alternative projections: 1987-88 to 2012-13



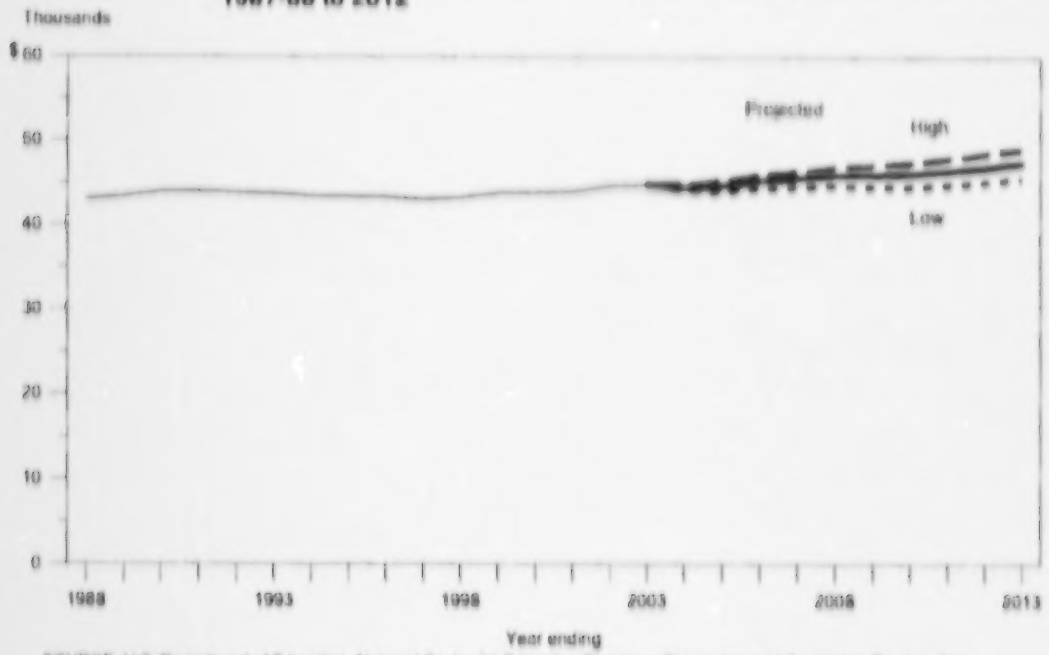
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), National Public Education Financial Survey," various years, and Elementary and Secondary School Current Expenditures Model

Figure 34. Current expenditures per pupil in fall enrollment in public schools, (in constant 2001-02 dollars), with alternative projections: 1987-88 to 2012-13



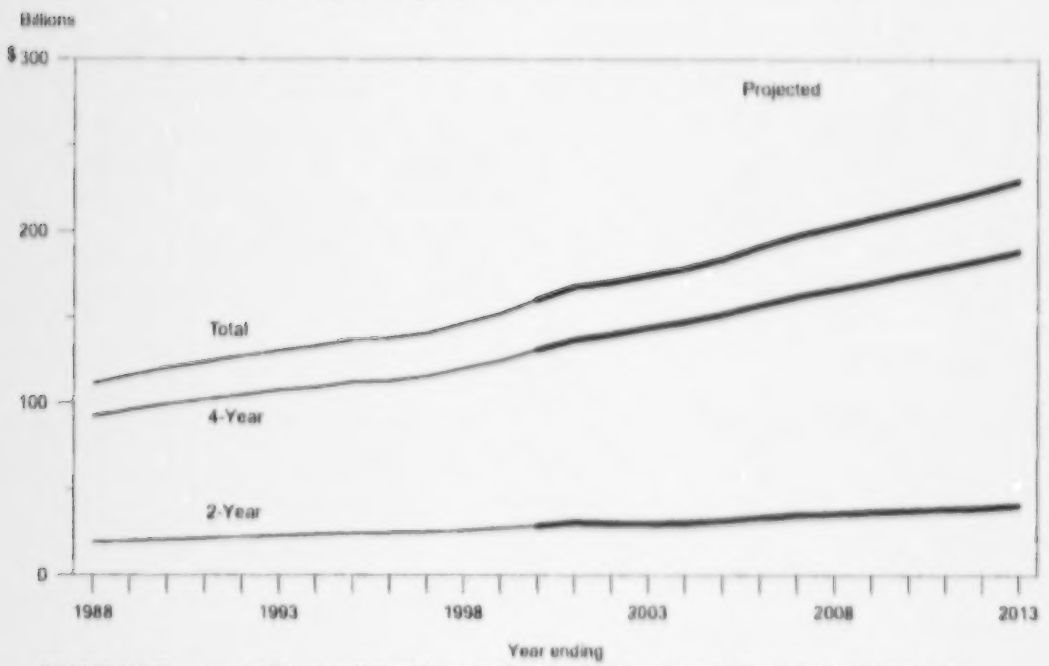
SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; National Public Education Financial Survey," various years, National Elementary and Secondary Enrollment Model; and Elementary and Secondary School Current Expenditures Model.

Figure 35. Estimated average annual salaries of elementary and secondary teachers in public schools (in constant 2001-02 dollars), with alternative projections: 1987-88 to 2012



SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2003. Copyright 2003 by the National Education Association. All rights reserved.)

Figure 36. Current-fund expenditures of public degree-granting institutions (in constant 2001-02 dollars), with middle alternative projections: 1987-88 to 2012-13



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; "Finance Survey" (IPEDS-F:FY), various years; Enrollment in Degree-Granting Institutions Model; and Expenditures in Degree-Granting Institutions Model.

Table 1. Enrollment in grades K–8 and 9–12 of elementary and secondary schools, by control of institution, with projections: Fall 1988 to fall 2013

[In thousands]

Year	Total			Public			Private		
	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12
1988[2]	45,430	32,537	12,893	40,188	28,501	11,687	5,242	4,036	1,206
1989[3]	45,741	33,187	12,554	40,543	29,152	11,390	5,198	4,035	1,163
1990[4]	46,451	33,962	12,488	41,217	29,878	11,338	5,234	4,084	1,150
1991[5]	47,122	34,619	12,703	42,047	30,506	11,541	5,275	4,113	1,162
1992[6]	48,145	35,264	12,882	42,823	31,088	11,735	5,322	4,175	1,147
1993[7]	48,812	35,719	13,093	43,465	31,504	11,961	5,348	4,215	1,132
1994[8]	49,610	36,233	13,378	44,111	31,898	12,213	5,498	4,335	1,163
1995[9]	50,503	36,806	13,697	44,840	32,341	12,500	5,662	4,465	1,197
1996[10]	51,378	37,316	14,060	45,611	32,764	12,847	5,766	4,551	1,213
1997[11]	51,968	37,696	14,272	46,127	33,073	13,054	5,841	4,623	1,218
1998[12]	52,475	38,048	14,427	46,539	33,346	13,193	5,937	4,702	1,235
1999[13]	52,876	38,253	14,623	46,857	33,488	13,369	6,018	4,765	1,254
2000[14]	53,385	38,584	14,801	47,223	33,709	13,514	6,162	4,875	1,287
2001[14]	53,890	38,832	15,058	47,688	33,952	13,736	6,202	4,880	1,322
					Projected				
2002	54,158	38,827	15,331	47,918	33,942	13,976	6,241	4,885	1,356
2003	54,296	38,719	15,577	48,040	33,843	14,198	6,256	4,876	1,379
2004	54,455	38,541	15,914	48,175	33,669	14,506	6,279	4,871	1,408
2005	54,615	38,412	16,203	48,304	33,534	14,770	6,311	4,878	1,433
2006	54,907	38,522	16,385	48,524	33,589	14,936	6,383	4,933	1,449
2007	55,049	38,603	16,445	48,640	33,654	14,986	6,409	4,950	1,458
2008	55,124	38,766	16,358	48,690	33,791	14,899	6,434	4,975	1,459
2009	55,223	38,995	16,228	48,761	33,994	14,767	6,461	5,001	1,461
2010	55,386	39,283	16,103	48,890	34,243	14,648	6,495	5,040	1,455
2011	55,618	39,688	15,930	49,084	34,597	14,487	6,534	5,091	1,443
2012	55,946	40,154	15,792	49,367	35,006	14,361	6,579	5,148	1,430
2013	56,364	40,638	15,726	49,737	35,430	14,307	6,627	5,208	1,419

[1] Includes most nursery school enrollment.

[2] Private school numbers are interpolated based on data from the 1985 Private School Survey.

[3] Private school numbers are from the Private School Universe Survey.

[4] Private school numbers are interpolated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; Private School Universe Survey (PSS), various years, 1985 Private School Survey; and National Elementary and Secondary Enrollment Model. (This table was prepared July 2003.)

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Table 2. Enrollment in elementary and secondary schools, by organizational level and control of institution, with projections: Fall 1988 to fall 2013

[In thousands]

Year	Total			Public			Private		
	K–12[1]	Elementary	Secondary	K–12[1]	Elementary	Secondary	K–12[1]	Elementary	Secondary
1988 [2]	45,430	29,776	15,654	40,188	25,760	14,448	5,242	4,036	1,206
1989 [2]	45,741	30,443	15,298	40,543	26,406	14,135	5,198	4,035	1,163
1990 [3]	46,451	31,134	15,317	41,217	27,050	14,167	5,234	4,084	1,150
1991 [2]	47,322	31,604	15,719	42,047	27,490	14,557	5,275	4,113	1,162
1992 [3]	48,145	32,125	16,020	42,823	27,950	14,874	5,322	4,175	1,147
1993 [2]	48,812	32,484	16,328	43,465	28,269	15,196	5,348	4,215	1,132
1994 [2]	49,610	32,620	16,990	44,111	28,285	15,827	5,498	4,335	1,163
1995 [3]	50,503	33,080	17,423	44,840	28,614	16,226	5,662	4,465	1,197
1996 [3]	51,375	33,293	18,083	45,611	28,741	16,870	5,764	4,551	1,213
1997 [3]	51,988	33,752	18,237	46,127	29,109	17,018	5,861	4,643	1,218
1998 [3]	52,475	34,295	18,180	46,539	29,593	16,946	5,937	4,703	1,235
1999 [3]	52,870	34,493	18,383	46,857	29,728	17,129	6,013	4,765	1,254
2000 [3]	53,385	34,779	18,606	47,223	29,904	17,319	6,162	4,875	1,287
2001 [3]	53,890	34,958	18,932	47,668	30,078	17,610	6,202	4,880	1,322
					Projected				
2002	54,158	34,804	19,354	47,918	29,919	17,999	6,241	4,885	1,356
2003	54,296	34,631	19,665	48,040	29,755	18,285	6,256	4,876	1,379
2004	54,455	34,454	20,001	48,175	29,583	18,593	6,279	4,871	1,408
2005	54,615	34,351	20,264	48,304	29,473	18,831	6,311	4,878	1,433
2006	54,907	34,503	20,404	48,524	29,569	18,955	6,383	4,933	1,449
2007	55,049	34,629	20,421	48,640	29,678	18,962	6,409	4,950	1,458
2008	55,124	34,815	20,309	48,690	29,841	18,850	6,434	4,975	1,459
2009	55,223	35,086	20,137	48,761	30,085	18,676	6,461	5,001	1,461
2010	55,386	35,417	19,969	48,890	30,377	18,514	6,495	5,040	1,455
2011	55,618	35,815	19,803	49,084	30,724	18,360	6,534	5,091	1,441
2012	55,946	36,239	19,707	49,367	31,091	18,277	6,579	5,148	1,430
2013	56,364	36,611	19,754	49,737	31,403	18,335	6,627	5,208	1,419

[1] Includes most nursery school enrollment.

[2] Private school numbers are interpolated based on data from the 1985 Private School Survey.

[3] Private school numbers are from the Private School Universe Survey.

[4] Private school numbers are interpolated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. For private schools, it was assumed that numbers for elementary are the same as those in table 1 for grades K–8, and numbers for secondary are the same as those in table 1 for grades 9–12. Designation of grades as elementary or secondary varies from school to school. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; Private School Universe Survey (PSS), various years; 1985 Private School Survey; and National Elementary and Secondary Enrollment Model. (This table was prepared July 2003.)

Table 3. Enrollment in public elementary and secondary schools, by grade, with projections: Fall 1993 to fall 2013

[In thousands]

Year	Total	Kindergarten[1]	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Elementary Unclassified	Secondary Unclassified
1993	43,465	3,922	3,529	3,429	3,437	3,361	3,350	3,356	3,355	3,249	3,487	3,050	2,751	2,424	515	248
1994	44,111	4,047	3,593	3,440	3,419	3,426	3,372	3,381	3,404	3,302	3,604	3,131	2,748	2,488	494	242
1995	44,840	4,173	3,671	3,507	3,445	3,431	3,438	3,395	3,422	3,356	3,704	3,237	2,826	2,487	502	245
1996	45,611	4,203	3,770	3,600	3,524	3,454	3,453	3,494	3,464	3,403	3,801	3,323	2,930	2,586	401	206
1997	46,127	4,199	3,755	3,689	3,597	3,507	3,458	3,492	3,520	3,415	3,819	3,376	2,972	2,673	442	214
1998	46,519	4,172	3,727	3,681	3,696	3,592	3,520	3,497	3,530	3,480	3,856	3,382	3,021	2,722	451	212
1999	46,857	4,148	3,684	3,655	3,690	3,686	3,604	3,564	3,541	3,497	3,935	3,415	3,034	2,782	418	203
2000	47,223	4,177	3,635	3,633	3,673	3,708	3,703	3,658	3,624	3,532	3,958	3,487	3,080	2,799	166	189
2001	47,688	4,248	3,615	3,595	3,654	3,696	3,728	3,770	3,722	3,619	4,013	3,529	3,174	2,863	306	157
									Projected							
2002	47,918	4,099	3,605	3,560	3,610	3,665	3,712	3,784	3,828	3,703	4,096	3,569	3,189	2,910	376	191
2003	48,040	4,084	3,519	3,550	3,575	3,620	3,681	3,769	3,843	3,809	4,191	3,643	3,226	2,944	373	194
2004	48,175	4,115	3,526	3,485	3,565	3,586	3,636	3,737	3,827	3,823	4,311	3,728	3,293	2,978	369	197
2005	48,304	4,173	3,553	3,472	3,500	3,575	3,601	3,692	3,795	3,807	4,327	3,834	3,369	3,019	366	200
2006	48,524	4,354	3,602	3,498	3,486	3,510	3,591	3,656	3,749	3,776	4,309	3,849	3,466	3,110	366	202
2007	48,640	4,360	3,758	3,547	3,513	3,497	3,525	3,646	3,713	3,730	4,274	3,833	3,479	3,199	366	202
2008	48,690	4,389	3,763	3,700	3,562	3,523	3,512	3,579	3,702	3,694	4,221	3,801	3,464	3,211	367	201
2009	48,761	4,422	3,787	3,705	3,716	3,573	3,539	3,565	3,634	3,683	4,181	3,755	3,435	3,198	369	199
2010	48,890	4,461	3,816	3,729	3,721	3,727	3,588	3,593	3,621	3,616	4,169	3,719	3,393	3,171	371	196
2011	49,084	4,503	3,849	3,757	3,745	3,732	3,743	3,643	3,648	3,602	4,093	3,708	3,361	3,132	375	193
2012	49,367	4,546	3,885	3,790	3,773	3,756	3,748	3,800	3,699	3,630	4,077	3,640	3,351	3,102	379	191
2013	49,737	4,592	3,922	3,825	3,806	3,784	3,773	3,805	3,859	3,681	4,108	3,626	3,290	3,093	384	189

[1] Includes most nursery school enrollment.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, and National Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

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Table 4. Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1995 to fall 2013

[In thousands]

Region and state	Actual							Projected		
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	44,840	45,611	46,127	46,539	46,857	47,223	47,688	47,918	48,040	48,175
Northeast	7,894	8,006	8,085	8,143	8,196	8,217	8,250	8,306	8,306	8,294
Connecticut	518	527	535	545	556	562	570	571	571	571
Maine	214	214	213	211	209	207	206	205	203	201
Massachusetts	915	934	949	962	971	975	973	975	975	974
New Hampshire	194	198	202	205	207	208	207	207	206	205
New Jersey	1,197	1,228	1,250	1,269	1,289	1,308	1,342	1,356	1,366	1,372
New York	2,813	2,843	2,862	2,877	2,888	2,882	2,872	2,888	2,881	2,872
Pennsylvania	1,788	1,804	1,815	1,816	1,817	1,814	1,822	1,842	1,842	1,838
Rhode Island	150	151	153	153	156	157	158	161	162	163
Vermont	106	106	106	105	103	102	101	101	100	99
Midwest	10,512	10,638	10,704	10,722	10,726	10,753	10,745	10,793	10,768	10,751
Illinois	1,944	1,973	1,998	2,012	2,028	2,049	2,071	2,078	2,081	2,085
Indiana	977	983	987	989	989	989	996	997	997	999
Iowa	502	503	501	498	497	495	486	488	485	483
Kansas	463	466	469	472	472	471	470	466	463	461
Michigan	1,641	1,686	1,703	1,720	1,720	1,743	1,731	1,786	1,794	1,800
Minnesota	835	847	854	856	854	854	851	846	840	834
Missouri	890	901	911	913	914	913	910	911	908	907
Nebraska	290	292	293	291	288	286	285	284	282	281
North Dakota	119	120	119	115	113	109	106	105	103	101
Ohio	1,836	1,845	1,847	1,842	1,837	1,835	1,831	1,830	1,820	1,812
South Dakota	145	143	142	132	131	129	128	127	126	124
Wisconsin	870	879	882	880	878	879	879	875	869	865
South	16,118	16,373	16,563	16,713	16,842	17,008	17,252	17,277	17,321	17,378
Alabama	746	748	749	748	741	740	737	735	732	729
Arkansas	453	457	456	452	451	450	450	448	445	443
Delaware	108	111	112	113	113	115	116	116	117	117
District of Columbia	80	79	77	72	77	69	75	71	70	69
Florida	2,170	2,242	2,294	2,338	2,381	2,435	2,500	2,512	2,533	2,558
Georgia	1,311	1,347	1,370	1,401	1,423	1,445	1,471	1,481	1,492	1,503
Kentucky	660	656	669	656	648	666	654	642	637	634
Louisiana	797	793	777	769	757	743	731	732	725	722
Maryland	806	819	831	842	847	853	861	866	868	869
Mississippi	506	504	505	502	501	498	494	493	491	489
North Carolina	1,183	1,210	1,236	1,255	1,276	1,294	1,315	1,318	1,322	1,325
Oklahoma	616	621	624	628	627	623	622	611	606	602
South Carolina	646	653	659	665	667	677	691	692	693	694
Tennessee	894	905	893	905	916	909	925	929	931	933
Texas	3,748	3,829	3,892	3,945	3,992	4,060	4,163	4,166	4,192	4,222
Virginia	1,080	1,096	1,111	1,124	1,134	1,145	1,163	1,181	1,188	1,194
West Virginia	307	304	301	298	292	286	283	281	279	277
West	10,316	10,594	10,775	10,959	11,094	11,246	11,441	11,543	11,645	11,752
Alaska	128	130	132	135	134	133	134	136	137	137
Arizona	744	799	814	848	853	878	922	929	942	954
California	5,536	5,686	5,804	5,926	6,039	6,142	6,249	6,325	6,391	6,461
Colorado	656	673	687	699	708	725	742	744	750	757
Hawaii	187	188	190	188	186	184	185	187	188	189
Idaho	243	245	244	245	245	245	247	248	250	252
Montana	166	165	162	160	158	155	152	152	150	149
Nevada	265	282	297	311	326	341	357	364	377	386
New Mexico	330	333	332	329	324	320	320	324	324	326
Oregon	528	538	541	543	545	546	551	552	552	552
Utah	477	482	483	481	480	482	485	484	486	490
Washington	957	975	991	998	1,004	1,005	1,009	1,011	1,011	1,011
Wyoming	100	99	97	95	92	90	88	88	87	87

Table 4. Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1994 to fall 2013—Continued

[In thousands]

Region and state	Projected								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
United States	48,104	48,524	48,640	48,690	48,761	48,890	49,084	49,367	49,717
Northeast	8,271	8,258	8,224	8,179	8,138	8,110	8,091	8,098	8,104
Connecticut	569	568	565	563	559	556	554	554	554
Maine	200	198	197	197	197	197	197	199	201
Massachusetts	970	968	963	957	953	951	949	950	950
New Hampshire	204	204	203	202	202	203	204	205	206
New Jersey	1,376	1,379	1,379	1,376	1,374	1,372	1,370	1,372	1,375
New York	2,862	2,851	2,834	2,814	2,795	2,782	2,772	2,768	2,772
Pennsylvania	1,832	1,829	1,822	1,811	1,800	1,793	1,787	1,785	1,787
Rhode Island	163	163	163	162	161	161	161	160	161
Vermont	98	98	97	97	96	97	97	97	98
Midwest	10,741	10,756	10,743	10,713	10,687	10,676	10,678	10,703	10,746
Illinois	2,089	2,098	2,098	2,096	2,093	2,091	2,090	2,091	2,097
Indiana	1,003	1,004	1,004	1,003	1,000	999	998	999	1,001
Iowa	481	483	480	478	477	476	475	476	478
Kansas	460	460	461	462	463	465	468	472	477
Michigan	1,803	1,807	1,804	1,793	1,784	1,777	1,772	1,771	1,773
Minnesota	831	830	828	825	825	826	829	834	841
Missouri	906	907	907	903	903	902	904	908	914
Nebraska	280	281	282	282	282	284	285	288	291
North Dakota	100	99	98	98	98	99	99	100	101
Ohio	1,805	1,803	1,798	1,787	1,779	1,773	1,769	1,770	1,773
South Dakota	124	124	125	125	126	127	128	129	131
Wisconsin	861	862	860	858	857	857	860	863	870
South	17,430	17,522	17,571	17,604	17,632	17,668	17,727	17,816	17,933
Alabama	727	727	726	723	721	720	720	722	725
Arkansas	443	442	440	438	437	436	436	436	437
Delaware	117	118	118	118	118	118	118	117	118
District of Columbia	69	69	69	69	69	70	70	72	73
Florida	2,567	2,583	2,591	2,597	2,601	2,603	2,609	2,620	2,635
Georgia	1,513	1,525	1,532	1,536	1,540	1,546	1,552	1,560	1,571
Kentucky	631	631	629	626	623	621	621	620	618
Louisiana	721	719	718	720	720	720	722	726	732
Maryland	868	869	867	865	863	864	866	870	875
Mississippi	488	488	487	486	484	482	481	481	481
North Carolina	1,326	1,328	1,325	1,321	1,315	1,309	1,305	1,303	1,304
Oklahoma	600	600	600	599	599	600	602	606	611
South Carolina	695	697	696	697	695	694	694	695	698
Tennessee	935	939	940	939	938	938	939	943	947
Texas	4,258	4,309	4,353	4,394	4,434	4,475	4,520	4,571	4,629
Virginia	1,197	1,204	1,206	1,205	1,204	1,204	1,205	1,208	1,213
West Virginia	276	275	274	272	270	269	267	267	266
West	11,859	11,988	12,102	12,196	12,305	12,436	12,587	12,739	12,955
Alaska	138	140	141	143	145	147	150	153	157
Arizona	967	980	991	999	1,005	1,011	1,018	1,025	1,033
California	6,528	6,604	6,673	6,730	6,800	6,888	6,986	7,099	7,232
Colorado	762	770	776	781	786	790	795	801	807
Hawaii	190	192	194	196	199	202	206	210	214
Idaho	255	258	261	264	268	271	275	279	284
Montana	149	149	150	150	151	152	154	156	159
Nevada	392	399	404	407	409	408	408	407	406
New Mexico	328	331	335	339	343	348	354	361	368
Oregon	554	557	559	560	563	566	571	576	581
Utah	494	501	507	513	519	525	533	540	546
Washington	1,013	1,018	1,022	1,024	1,028	1,034	1,042	1,054	1,067
Wyoming	87	88	89	90	91	93	95	97	100

NOTE: Some data have been revised from previously published figures. Includes most nursery school enrollment. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, and State Public Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

Table 5. Percent change in grades K–12 enrollment in public schools, by region and state, with projections: Fall 1995 to fall 2013

Region and state	Actual	Projected		
	1995-2001	2001-2007	2007-2013	2001-2013
United States	6.4	2.0	2.3	4.3
Northeast	4.5	-0.3	-1.5	-1.8
Connecticut	10.1	-0.9	-2.0	-2.8
Maine	-3.7	-4.0	1.6	-2.4
Massachusetts	6.4	-1.0	-1.4	-2.4
New Hampshire	6.5	-1.9	1.7	-0.2
New Jersey	12.0	2.8	-0.3	2.5
New York	2.1	-1.3	-2.2	-3.5
Pennsylvania	1.9	0.0	-1.9	-1.9
Rhode Island	5.5	3.0	-1.1	1.9
Vermont	-4.2	-3.8	0.7	-3.2
Midwest	2.2	#	#	#
Illinois	6.6	1.3	-0.1	1.2
Indiana	1.9	0.8	-0.4	0.4
Iowa	-3.3	-1.1	-0.5	-1.6
Kansas	1.6	-1.9	3.3	1.4
Michigan	5.4	4.2	-1.7	2.4
Minnesota	1.9	-2.8	1.6	-1.2
Missouri	2.2	-0.3	0.8	0.5
Nebraska	-1.6	-1.2	3.2	2.0
North Dakota	-11.0	-7.2	3.0	-4.5
Ohio	-0.3	-1.9	-1.3	-3.2
South Dakota	-11.8	-2.2	4.9	2.6
Wisconsin	1.1	-2.2	1.1	-1.1
South	7.0	1.8	2.1	3.9
Alabama	-1.2	-1.6	-0.1	-1.7
Arkansas	-0.8	-2.1	-0.9	-2.9
Delaware	6.5	2.2	-0.4	1.8
District of Columbia	-1.5	-8.6	6.4	-2.8
Florida	14.9	3.6	1.7	5.4
Georgia	12.2	4.2	2.5	6.8
Kentucky	-0.8	-3.9	-1.7	-5.5
Louisiana	-8.3	-1.8	1.9	#
Maryland	6.8	0.8	0.9	1.7
Mississippi	-2.5	-1.3	-1.2	-2.4
North Carolina	11.2	0.8	-1.6	-0.9
Oklahoma	0.9	-3.6	2.0	-1.7
South Carolina	7.0	0.7	0.3	0.9
Tennessee	3.5	1.6	0.8	2.4
Texas	11.1	4.5	6.3	11.2
Virginia	7.7	3.7	0.6	4.3
West Virginia	-7.9	-3.3	-2.9	-6.1
West	10.9	5.8	7.0	13.2
Alaska	5.3	5.2	11.2	17.0
Arizona	24.0	7.5	4.2	12.0
California	12.9	6.8	8.4	15.7
Colorado	13.1	4.6	4.0	8.8
Hawaii	-1.4	5.3	10.2	16.1
Idaho	1.4	6.0	8.6	15.1
Montana	-8.2	-1.5	6.2	4.6
Nevada	34.6	13.3	0.4	13.8
New Mexico	-2.8	4.5	10.0	14.9
Oregon	4.5	1.4	4.0	5.4
Utah	1.6	4.6	7.8	12.7
Washington	5.5	1.2	4.4	5.7
Wyoming	-11.7	0.6	12.4	13.1

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Includes most nursery school enrollment. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; and State Public Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

Table 6. Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1995 to fall 2013

[In thousands]

Region and state	Actual							Projected		
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	32,341	32,764	33,073	33,346	33,488	33,709	33,952	33,942	33,843	33,669
Northeast	5,659	5,729	5,774	5,820	5,841	5,826	5,824	5,818	5,767	5,703
Connecticut	384	389	394	399	404	406	410	406	403	397
Maine	156	156	153	151	149	146	144	143	141	140
Massachusetts	675	688	696	703	706	703	699	698	691	684
New Hampshire	142	144	145	147	147	147	144	144	142	141
New Jersey	880	903	921	936	954	953	972	972	967	960
New York	1,980	2,000	2,011	2,028	2,034	2,029	2,017	2,013	1,991	1,964
Pennsylvania	1,257	1,264	1,266	1,267	1,262	1,258	1,255	1,259	1,250	1,237
Rhode Island	110	110	112	112	114	114	113	114	114	113
Vermont	75	75	74	73	72	70	69	69	68	67
Midwest	7,448	7,504	7,554	7,565	7,551	7,537	7,517	7,529	7,480	7,415
Illinois	1,390	1,412	1,438	1,452	1,462	1,474	1,484	1,483	1,476	1,467
Indiana	684	689	693	697	699	703	711	710	707	702
Iowa	344	342	338	337	336	334	330	330	327	324
Kansas	329	328	328	327	326	323	322	320	319	317
Michigan	1,192	1,212	1,236	1,245	1,245	1,256	1,223	1,254	1,248	1,233
Minnesota	586	589	588	587	580	578	573	568	563	557
Missouri	636	643	650	651	649	645	643	642	638	633
Nebraska	203	203	202	200	197	195	195	194	193	192
North Dakota	82	82	80	77	75	72	70	70	69	68
Ohio	1,297	1,299	1,299	1,301	1,296	1,294	1,287	1,282	1,271	1,258
South Dakota	101	99	98	91	90	88	87	87	87	87
Wisconsin	603	605	604	601	596	595	592	588	583	578
South	11,772	11,911	12,022	12,127	12,191	12,315	12,467	12,419	12,391	12,348
Alabama	539	540	541	542	539	539	536	535	531	526
Arkansas	322	324	322	319	318	318	318	316	313	310
Delaware	77	78	79	80	80	81	81	81	82	82
District of Columbia	62	61	60	57	60	54	58	55	54	53
Florida	1,614	1,653	1,680	1,704	1,725	1,760	1,797	1,790	1,788	1,783
Georgia	966	991	1,011	1,029	1,044	1,060	1,075	1,077	1,078	1,075
Kentucky	468	466	474	464	459	472	473	463	460	456
Louisiana	580	575	564	558	548	547	537	536	531	529
Maryland	590	597	602	607	607	609	611	610	606	601
Mississippi	366	364	365	365	365	364	362	362	360	357
North Carolina	871	886	906	921	933	945	956	951	945	937
Oklahoma	446	445	445	448	447	445	446	437	433	429
South Carolina	463	468	473	478	484	493	500	495	492	493
Tennessee	651	657	653	665	664	668	675	673	673	668
Texas	2,757	2,800	2,832	2,868	2,896	2,943	3,016	3,000	3,013	3,024
Virginia	788	796	807	815	817	816	826	836	835	831
West Virginia	211	209	207	206	203	201	200	199	197	196
West	7,462	7,620	7,723	7,834	7,904	8,012	8,144	8,176	8,205	8,204
Alaska	93	94	96	97	96	94	95	96	96	96
Arizona	549	588	596	623	624	641	672	669	674	676
California	4,041	4,129	4,196	4,270	4,337	4,409	4,480	4,508	4,525	4,522
Colorado	479	487	494	501	507	517	529	527	529	530
Hawaii	136	136	136	135	133	132	132	134	134	135
Idaho	170	169	169	169	169	170	171	173	174	175
Montana	116	113	112	110	107	105	103	103	103	102
Nevada	196	208	219	229	240	251	262	264	268	268
New Mexico	229	230	236	232	229	225	225	228	228	230
Oregon	376	380	381	380	378	379	382	382	381	379
Utah	328	328	329	329	329	333	338	338	340	342
Washington	680	687	694	696	695	694	696	696	693	689
Wyoming	69	67	66	64	62	60	59	60	60	60

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Table 6. Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1995 to fall 2013—Continued

[In thousands]

Region and state	Projected								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
United States	33,534	33,589	33,654	33,791	33,994	34,243	34,597	35,006	35,430
Northeast	5,647	5,620	5,596	5,587	5,589	5,587	5,603	5,630	5,662
Connecticut	393	390	387	385	384	384	386	389	392
Maine	139	139	139	140	142	142	143	144	145
Massachusetts	678	676	675	675	673	672	672	674	677
New Hampshire	140	140	141	142	143	144	144	145	146
New Jersey	953	951	948	947	946	949	954	961	969
New York	1,940	1,928	1,916	1,909	1,909	1,907	1,912	1,921	1,932
Pennsylvania	1,224	1,217	1,212	1,210	1,212	1,210	1,211	1,215	1,219
Rhode Island	112	111	111	110	110	111	111	112	113
Vermont	67	67	67	68	69	69	69	69	69
Midwest	7,359	7,348	7,338	7,350	7,378	7,403	7,449	7,504	7,559
Illinois	1,457	1,456	1,452	1,448	1,448	1,454	1,464	1,477	1,490
Indiana	698	697	696	697	698	699	702	705	709
Iowa	321	321	320	321	323	324	326	328	329
Kansas	316	317	319	321	324	327	331	335	339
Michigan	1,221	1,216	1,211	1,209	1,209	1,209	1,213	1,218	1,224
Minnesota	553	553	554	557	562	566	572	578	585
Missouri	628	626	626	629	634	637	642	648	653
Nebraska	192	193	194	196	198	200	202	204	206
North Dakota	68	68	68	69	70	70	71	72	73
Ohio	1,245	1,240	1,235	1,236	1,238	1,239	1,243	1,249	1,255
South Dakota	87	87	88	90	91	92	93	94	95
Wisconsin	574	575	576	579	584	587	591	596	601
South	12,306	12,327	12,345	12,384	12,441	12,532	12,657	12,800	12,945
Alabama	521	520	519	520	523	524	526	529	533
Arkansas	307	306	306	307	307	308	309	310	312
Delaware	81	81	81	81	81	81	81	82	82
District of Columbia	52	52	52	53	54	55	56	57	59
Florida	1,776	1,777	1,776	1,776	1,777	1,793	1,814	1,839	1,865
Georgia	1,074	1,079	1,081	1,085	1,090	1,099	1,110	1,123	1,135
Kentucky	451	450	451	452	449	449	449	450	451
Louisiana	526	525	525	527	531	535	540	545	551
Maryland	596	595	595	597	600	603	607	613	619
Mississippi	354	353	352	352	353	353	354	355	356
North Carolina	929	924	919	914	911	913	918	924	930
Oklahoma	425	425	426	427	431	435	441	446	452
South Carolina	490	489	487	487	488	489	491	494	498
Tennessee	664	664	665	667	671	673	677	682	687
Texas	3,039	3,069	3,094	3,122	3,155	3,202	3,258	3,318	3,379
Virginia	826	825	824	824	827	829	834	841	848
West Virginia	194	193	193	192	192	191	191	190	189
West	8,222	8,294	8,375	8,471	8,586	8,721	8,888	9,072	9,265
Alaska	97	98	100	102	105	108	110	113	115
Arizona	677	681	684	687	691	699	710	722	733
California	4,532	4,576	4,621	4,677	4,748	4,833	4,941	5,065	5,198
Colorado	531	535	538	542	546	551	558	565	572
Hawaii	135	138	140	143	147	149	152	155	159
Idaho	177	180	183	187	191	194	197	200	202
Montana	103	103	105	107	110	111	112	113	114
Nevada	269	269	269	268	265	268	271	274	276
New Mexico	231	235	239	244	250	255	259	264	269
Oregon	378	379	382	386	390	394	399	405	410
Utah	345	350	356	362	367	373	379	386	391
Washington	687	689	693	701	709	718	728	740	752
Wyoming	60	62	63	65	67	69	70	72	73

NOTE: Some data have been revised from previously published figures. Includes most nursery school enrollment. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, and State Public Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

Table 7. Percent change in grades K–8 enrollment in public schools, by region and state, with projections: Fall 1995 to fall 2013

Region and state	Actual	Projected		
	1995-2001	2001-2007	2007-2013	2001-2013
United States	5.0	-0.9	5.3	4.4
Northeast	2.9	-3.9	1.2	-2.8
Connecticut	6.7	-5.6	1.3	-4.4
Maine	-7.8	-3.3	4.1	0.7
Massachusetts	3.7	-3.6	0.4	-3.2
New Hampshire	2.0	-2.4	3.7	1.2
New Jersey	10.4	-2.5	2.3	-0.3
New York	1.9	-5.0	0.8	-4.3
Pennsylvania	-0.2	-3.4	0.6	-2.9
Rhode Island	2.7	-1.8	1.6	-0.2
Vermont	-7.9	-2.7	2.8	#
Midwest	0.9	-2.4	3.0	0.6
Illinois	6.7	-2.2	2.7	0.4
Indiana	4.0	-2.1	1.8	-0.4
Iowa	-4.2	-2.9	2.9	-0.1
Kansas	-1.9	-1.2	6.5	5.2
Michigan	2.6	-1.0	1.1	0.1
Minnesota	-2.2	-3.3	5.6	2.1
Missouri	1.1	-2.6	4.4	1.7
Nebraska	-4.1	-0.5	6.4	5.8
North Dakota	-14.4	-3.5	7.1	3.3
Ohio	-0.8	-4.0	1.6	-2.5
South Dakota	-14.3	1.6	7.2	8.9
Wisconsin	-1.9	-2.7	4.4	1.6
South	5.9	-1.0	4.9	3.8
Alabama	-0.7	-3.0	2.5	-0.6
Arkansas	-1.4	-3.7	1.8	-1.9
Delaware	5.5	-0.3	1.1	0.8
District of Columbia	-6.3	-10.3	13.3	1.7
Florida	11.4	-1.2	5.0	3.8
Georgia	11.3	0.5	5.0	5.6
Kentucky	1.1	-4.8	0.0	-4.8
Louisiana	-7.5	-2.3	4.9	2.6
Maryland	3.5	-2.6	4.1	1.4
Mississippi	-1.2	-2.7	1.0	-1.7
North Carolina	9.7	-3.9	1.2	-2.7
Oklahoma	0.0	-4.6	6.3	1.4
South Carolina	7.9	-2.6	2.2	-0.4
Tennessee	3.7	-1.4	3.3	1.8
Texas	9.4	2.6	9.2	12.0
Virginia	4.9	-0.3	3.0	2.7
West Virginia	-5.3	-3.6	-1.7	-5.3
West	9.2	2.8	10.6	13.8
Alaska	1.6	5.4	15.1	21.3
Arizona	22.4	1.9	7.1	9.1
California	10.9	3.2	12.5	16.0
Colorado	10.5	1.7	6.2	8.0
Hawaii	-2.8	6.3	13.1	20.2
Idaho	1.1	6.7	10.6	18.0
Montana	-11.8	2.3	8.9	11.4
Nevada	34.0	2.6	2.6	5.3
New Mexico	-1.8	6.0	12.8	19.6
Oregon	1.5	0.2	7.2	7.4
Utah	3.1	5.2	10.0	15.8
Washington	2.4	-0.4	8.5	8.0
Wyoming	-14.3	6.9	15.7	23.6

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Includes most nursery school enrollment. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; and State Public Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

Table 8. Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1995 to fall 2013

[In thousands]

Region and state	Actual							Projected		
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	12,500	12,847	13,054	13,193	13,369	13,514	13,736	13,976	14,198	14,506
Northeast	2,235	2,277	2,311	2,326	2,355	2,391	2,427	2,488	2,539	2,591
Connecticut	134	138	141	145	150	156	160	165	169	174
Maine	58	58	59	60	60	61	62	62	62	61
Massachusetts	240	246	253	258	265	273	274	278	284	290
New Hampshire	52	54	56	58	60	61	62	63	63	64
New Jersey	317	325	329	333	335	355	370	385	399	412
New York	833	843	851	849	854	853	855	875	890	908
Pennsylvania	531	541	549	549	555	556	567	582	592	601
Rhode Island	40	41	42	42	43	44	45	47	48	50
Vermont	30	31	32	32	32	32	32	32	32	32
Midwest	3,064	3,134	3,151	3,156	3,175	3,196	3,228	3,264	3,288	3,336
Illinois	553	561	560	560	565	575	587	595	605	618
Indiana	293	294	294	292	289	286	285	287	291	296
Iowa	158	161	163	162	161	161	156	158	157	159
Kansas	134	138	141	145	146	147	148	146	145	144
Michigan	450	473	467	475	481	488	508	532	546	567
Minnesota	249	258	266	270	274	277	278	278	277	277
Missouri	254	257	261	263	265	268	267	269	270	273
Nebraska	87	89	91	91	91	91	90	89	88	89
North Dakota	37	38	38	38	38	37	36	35	34	33
Ohio	539	546	548	541	540	541	544	548	550	554
South Dakota	43	44	45	42	41	41	41	40	39	38
Wisconsin	267	274	278	279	281	285	288	287	286	287
South	4,346	4,462	4,541	4,586	4,650	4,693	4,785	4,858	4,931	5,031
Alabama	207	208	208	206	202	201	202	200	201	204
Arkansas	131	133	134	133	133	132	132	132	131	133
Delaware	31	33	33	33	33	34	34	35	35	35
District of Columbia	18	18	17	15	17	15	17	16	16	16
Florida	563	589	614	634	656	675	703	722	745	775
Georgia	345	356	365	372	379	385	395	404	414	428
Kentucky	192	190	195	191	190	194	181	178	177	178
Louisiana	217	218	213	210	209	197	194	197	195	193
Maryland	215	222	229	235	239	244	250	256	262	268
Mississippi	140	140	140	137	135	134	132	131	130	132
North Carolina	312	324	330	334	341	348	359	368	377	387
Oklahoma	171	175	179	181	180	178	176	174	174	174
South Carolina	182	185	187	187	183	184	191	197	201	201
Tennessee	243	248	240	241	252	241	250	254	258	264
Texas	991	1,029	1,059	1,077	1,096	1,117	1,147	1,167	1,179	1,198
Virginia	292	300	304	309	317	329	337	345	353	363
West Virginia	96	95	94	92	88	85	83	82	82	82
West	2,854	2,974	3,051	3,125	3,189	3,234	3,297	3,366	3,440	3,548
Alaska	34	36	36	38	39	39	39	40	41	41
Arizona	195	211	218	226	229	237	251	260	268	279
California	1,495	1,557	1,608	1,656	1,702	1,733	1,769	1,817	1,865	1,939
Colorado	177	186	193	198	202	208	213	217	221	227
Hawaii	52	51	53	53	53	52	53	53	54	55
Idaho	74	76	76	76	77	75	75	75	76	77
Montana	49	50	50	50	50	50	49	49	48	47
Nevada	69	74	78	82	86	90	94	100	110	118
New Mexico	100	103	96	96	96	95	95	96	96	96
Oregon	152	158	160	163	167	167	170	170	171	174
Utah	149	154	154	153	151	148	147	147	147	148
Washington	277	287	297	302	309	310	313	315	318	322
Wyoming	31	32	32	31	30	30	29	28	27	27

Table 8. Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1995 to fall 2013—Continued

[In thousands]

Region and state	Projected								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
United States	14,770	14,936	14,986	14,899	14,767	14,648	14,487	14,361	14,307
Northeast	2,628	2,638	2,628	2,592	2,549	2,523	2,489	2,460	2,442
Connecticut	176	178	178	177	175	172	168	165	162
Maine	61	60	58	56	54	54	54	55	56
Massachusetts	292	292	288	283	280	279	277	275	272
New Hampshire	64	63	62	60	59	59	59	60	60
New Jersey	422	428	431	430	427	423	416	411	406
New York	922	923	918	904	885	874	860	847	840
Pennsylvania	608	611	610	601	588	583	576	570	568
Rhode Island	51	52	52	52	51	50	50	49	49
Vermont	31	31	30	29	28	28	28	28	29
Midwest	3,382	3,408	3,405	3,363	3,308	3,273	3,229	3,198	3,186
Illinois	632	642	647	648	645	637	626	614	606
Indiana	304	307	308	306	303	300	297	294	292
Iowa	160	161	160	158	154	152	150	148	149
Kansas	144	144	143	141	139	138	138	137	137
Michigan	581	591	593	584	574	568	560	553	549
Minnesota	278	276	274	268	264	261	257	256	256
Missouri	277	281	281	276	270	265	262	260	261
Nebraska	89	89	88	86	84	84	84	84	85
North Dakota	32	31	30	29	28	28	28	28	29
Ohio	560	562	560	552	540	534	526	521	519
South Dakota	37	37	36	35	35	35	35	35	36
Wisconsin	287	287	284	280	273	271	268	267	268
South	5,124	5,195	5,226	5,220	5,191	5,136	5,070	5,016	4,988
Alabama	206	207	206	203	198	196	194	192	192
Arkansas	135	135	134	132	130	128	127	125	125
Delaware	36	36	37	37	37	37	36	36	36
District of Columbia	17	17	17	16	15	15	14	14	14
Florida	791	806	815	821	824	810	795	780	770
Georgia	439	446	451	451	450	447	441	438	436
Kentucky	180	182	178	174	174	172	171	171	168
Louisiana	194	194	194	193	189	185	182	181	181
Maryland	273	274	272	268	263	261	258	257	256
Mississippi	134	135	135	134	131	129	127	126	126
North Carolina	397	405	407	407	404	396	388	380	374
Oklahoma	174	175	174	171	168	164	162	160	159
South Carolina	206	208	208	209	207	205	203	201	200
Tennessee	271	275	275	272	267	265	262	260	260
Texas	1,219	1,239	1,259	1,272	1,280	1,273	1,261	1,252	1,250
Virginia	371	379	382	381	378	375	371	367	365
West Virginia	82	82	81	80	78	77	77	77	76
West	3,637	3,694	3,728	3,724	3,720	3,715	3,699	3,687	3,690
Alaska	42	42	41	41	39	40	40	41	42
Arizona	290	300	307	312	315	311	308	303	300
California	1,997	2,028	2,051	2,052	2,052	2,055	2,045	2,035	2,034
Colorado	231	236	238	239	240	239	237	236	235
Hawaii	55	55	54	53	52	53	53	54	56
Idaho	78	78	78	77	77	77	78	80	81
Montana	46	46	45	43	42	42	42	43	45
Nevada	123	130	135	139	143	140	137	134	130
New Mexico	97	97	96	95	92	94	95	96	99
Oregon	176	178	177	174	173	172	172	171	171
Utah	150	151	151	151	152	152	153	154	155
Washington	326	329	328	323	319	316	314	314	315
Wyoming	26	26	25	25	24	24	25	25	27

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; and State Public Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

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Table 9. Percent change in grades 9–12 enrollment in public schools, by region and state, with projections: Fall 1995 to fall 2013

Region and state	Actual	Projected		
	1995-2001	2001-2007	2007-2013	2001-2013
United States	9.9	9.1	-4.5	4.2
Northeast	8.6	8.3	-7.1	0.6
Connecticut	19.9	11.3	-9.0	1.3
Maine	7.2	-5.7	-4.2	-9.7
Massachusetts	13.8	5.4	-5.5	-0.4
New Hampshire	18.9	-0.7	-2.8	-3.5
New Jersey	16.6	16.5	-5.8	9.7
New York	2.6	7.4	-8.4	-1.7
Pennsylvania	6.8	7.6	-6.8	0.2
Rhode Island	13.2	15.0	-6.8	7.2
Vermont	5.1	-6.3	-4.0	-10.1
Midwest	5.3	5.5	-6.4	-1.3
Illinois	6.2	10.1	-6.2	3.3
Indiana	-2.8	8.2	-5.2	2.5
Iowa	-1.3	2.6	-7.3	-4.9
Kansas	10.0	-3.4	-3.7	-7.0
Michigan	12.9	16.8	-7.4	8.1
Minnesota	11.8	-1.7	-6.6	-8.1
Missouri	5.2	5.1	-7.2	-2.4
Nebraska	4.3	-2.8	-3.7	-6.3
North Dakota	-3.2	-14.6	-6.2	-19.9
Ohio	1.0	2.9	-7.5	-4.7
South Dakota	-6.1	-10.3	-0.8	-10.9
Wisconsin	7.6	-1.1	-5.7	-6.7
South	10.1	9.2	-4.5	4.2
Alabama	-2.5	2.3	-6.7	-4.5
Arkansas	0.8	1.7	-6.9	-5.3
Delaware	9.1	8.1	-3.7	4.0
District of Columbia	-2.9	-3.1	-14.9	-17.6
Florida	24.9	15.9	-5.5	9.6
Georgia	14.5	14.1	-3.4	10.2
Kentucky	-5.6	-1.5	-5.8	-7.2
Louisiana	-10.4	-0.4	-6.5	-6.9
Maryland	15.9	9.0	-5.9	2.6
Mississippi	-5.9	2.6	-6.9	-4.5
North Carolina	15.3	13.2	-8.1	4.0
Oklahoma	3.2	-1.2	-8.5	-9.6
South Carolina	4.8	9.1	-4.2	4.5
Tennessee	3.0	9.8	-5.3	3.9
Texas	15.8	9.7	-0.7	8.9
Virginia	15.4	13.4	-4.6	8.2
West Virginia	-13.5	-2.4	-5.8	-8.0
West	15.5	13.1	-1.0	11.9
Alaska	15.4	4.9	1.7	6.6
Arizona	28.4	22.5	-2.1	19.9
California	18.3	16.0	-0.8	15.0
Colorado	20.1	11.8	-1.1	10.6
Hawaii	2.2	3.0	2.7	5.8
Idaho	2.1	4.2	4.0	8.4
Montana	0.2	-9.3	-0.2	-9.5
Nevada	36.4	43.2	-3.9	37.6
New Mexico	-5.2	1.0	2.9	3.9
Oregon	11.7	4.0	-3.0	0.9
Utah	-1.8	3.1	2.5	5.7
Washington	13.2	4.9	-4.2	0.5
Wyoming	-6.1	-12.3	4.3	-8.5

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; and State Public Elementary and Secondary Enrollment Model. (This table was prepared June 2003.)

Table 10. Total enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1988	13,055	6,002	7,053	7,437	5,618	10,161	2,894
1989	13,539	6,190	7,349	7,661	5,878	10,578	2,961
1990	13,819	6,284	7,535	7,821	5,998	10,845	2,974
1991	14,359	6,502	7,857	8,115	6,244	11,310	3,049
1992	14,486	6,524	7,963	8,161	6,325	11,385	3,102
1993	14,305	6,427	7,877	8,128	6,177	11,189	3,116
1994	14,279	6,372	7,907	8,138	6,141	11,134	3,145
1995	14,262	6,343	7,919	8,129	6,133	11,092	3,169
1996	14,368	6,353	8,015	8,303	6,065	11,121	3,247
1997	14,502	6,396	8,106	8,438	6,064	11,196	3,306
1998	14,507	6,369	8,138	8,563	5,944	11,138	3,369
1999	14,791	6,491	8,301	8,786	6,005	11,309	3,482
2000	15,312	6,722	8,591	9,010	6,303	11,753	3,560
Middle alternative projections							
2001	15,484	6,801	8,684	9,146	6,338	11,895	3,589
2002	16,102	7,008	9,095	9,590	6,512	12,354	3,749
2003	16,361	7,098	9,263	9,774	6,587	12,546	3,814
2004	16,468	7,144	9,324	9,860	6,608	12,627	3,841
2005	16,679	7,208	9,471	10,008	6,671	12,786	3,893
2006	16,887	7,281	9,606	10,160	6,727	12,942	3,945
2007	17,020	7,342	9,679	10,272	6,749	13,042	3,978
2008	17,168	7,413	9,755	10,400	6,767	13,153	4,015
2009	17,374	7,498	9,876	10,560	6,815	13,308	4,066
2010	17,541	7,561	9,980	10,681	6,860	13,431	4,110
2011	17,724	7,621	10,103	10,795	6,929	13,566	4,158
2012	17,927	7,679	10,248	10,909	7,018	13,716	4,211
2013	18,151	7,734	10,416	11,029	7,122	13,883	4,268
Low alternative projections							
2001	15,484	6,801	8,684	9,146	6,338	11,895	3,589
2002	16,047	6,993	9,054	9,553	6,494	12,435	3,611
2003	16,245	7,065	9,179	9,696	6,549	12,555	3,690
2004	16,330	7,105	9,225	9,764	6,566	12,594	3,737
2005	16,489	7,156	9,333	9,878	6,611	12,693	3,796
2006	16,630	7,210	9,420	9,985	6,645	12,784	3,846
2007	16,723	7,258	9,465	10,068	6,656	12,843	3,880
2008	16,830	7,317	9,513	10,168	6,662	12,915	3,915
2009	16,995	7,390	9,605	10,298	6,697	13,035	3,960
2010	17,140	7,445	9,694	10,404	6,736	13,137	4,002
2011	17,289	7,497	9,792	10,497	6,792	13,245	4,044
2012	17,463	7,550	9,913	10,592	6,870	13,371	4,091
2013	17,671	7,602	10,070	10,703	6,968	13,525	4,146
High alternative projections							
2001	15,484	6,801	8,684	9,146	6,338	11,895	3,589
2002	16,053	6,996	9,057	9,560	6,494	12,367	3,686
2003	16,355	7,094	9,260	9,771	6,584	12,573	3,782
2004	16,552	7,165	9,387	9,913	6,638	12,709	3,843
2005	16,825	7,250	9,575	10,106	6,720	12,907	3,918
2006	17,100	7,342	9,757	10,302	6,798	13,109	3,991
2007	17,317	7,426	9,891	10,469	6,848	13,269	4,048
2008	17,551	7,521	10,030	10,657	6,894	13,443	4,108
2009	17,837	7,627	10,210	10,870	6,967	13,657	4,180
2010	18,068	7,707	10,361	11,035	7,033	13,827	4,241
2011	18,301	7,781	10,520	11,184	7,118	13,999	4,302
2012	18,549	7,853	10,696	11,328	7,221	14,183	4,366
2013	18,809	7,917	10,892	11,471	7,338	14,376	4,433

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 11. Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with middle alternative projections: Fall 1988 to fall 2013

[In thousands]

Sex, age, and attendance status	Actual												
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Men and women, total	13,055	13,539	13,819	14,359	14,486	14,305	14,279	14,262	14,368	14,502	14,507	14,791	15,312
14 to 17 years old	179	185	177	125	186	127	138	148	231	171	119	143	145
18 and 19 years old	2,940	3,041	2,950	2,866	2,784	2,840	2,787	2,894	3,038	3,061	3,382	3,414	3,531
20 and 21 years old	2,667	2,550	2,761	2,920	2,883	2,674	2,724	2,705	2,659	2,875	2,811	2,989	3,045
22 to 24 years old	2,068	2,185	2,144	2,306	2,527	2,570	2,482	2,411	2,324	2,475	2,377	2,435	2,617
25 to 29 years old	1,740	1,979	1,982	2,072	1,985	2,002	1,985	2,120	2,128	1,999	1,991	1,870	1,960
30 to 34 years old	1,283	1,305	1,322	1,415	1,456	1,345	1,414	1,236	1,196	1,109	1,195	1,145	1,265
35 years old and over	2,179	2,293	2,484	2,656	2,665	2,747	2,750	2,747	2,791	2,814	2,632	2,796	2,749
Men, total	6,002	6,190	6,284	6,502	6,524	6,427	6,372	6,343	6,353	6,396	6,369	6,491	6,722
14 to 17 years old	58	77	87	50	89	54	62	61	92	56	45	72	63
18 and 19 years old	1,343	1,433	1,421	1,299	1,305	1,288	1,302	1,338	1,354	1,414	1,535	1,541	1,583
20 and 21 years old	1,332	1,261	1,368	1,387	1,342	1,284	1,264	1,282	1,228	1,374	1,374	1,392	1,382
22 to 24 years old	1,130	1,084	1,107	1,232	1,272	1,344	1,238	1,153	1,177	1,200	1,127	1,090	1,293
25 to 29 years old	844	993	940	1,049	955	903	936	962	991	972	908	874	862
30 to 34 years old	588	562	537	614	627	584	601	561	477	443	463	517	527
35 years old and over	707	782	824	870	933	970	969	986	1,033	938	917	1,005	1,012
Women, total	7,053	7,349	7,535	7,857	7,963	7,877	7,907	7,919	8,015	8,106	8,138	8,301	8,591
14 to 17 years old	121	108	90	76	97	73	75	87	139	115	74	72	82
18 and 19 years old	1,596	1,608	1,529	1,565	1,479	1,552	1,485	1,557	1,684	1,647	1,847	1,874	1,948
20 and 21 years old	1,336	1,290	1,392	1,533	1,541	1,391	1,461	1,424	1,430	1,501	1,437	1,597	1,663
22 to 24 years old	937	1,101	1,037	1,074	1,255	1,226	1,243	1,258	1,147	1,275	1,250	1,344	1,324
25 to 29 years old	896	986	1,043	1,022	1,030	1,098	1,049	1,159	1,137	1,027	1,083	995	1,099
30 to 34 years old	695	743	784	800	828	761	812	675	719	666	732	627	738
35 years old and over	1,472	1,511	1,659	1,786	1,732	1,777	1,781	1,760	1,758	1,877	1,715	1,791	1,736
Full-time, total	7,437	7,661	7,821	8,115	8,161	8,128	8,138	8,129	8,303	8,438	8,563	8,786	9,010
14 to 17 years old	150	154	144	117	179	92	118	123	166	123	93	129	125
18 and 19 years old	2,528	2,671	2,548	2,466	2,382	2,370	2,321	2,387	2,553	2,534	2,794	2,848	2,932
20 and 21 years old	2,108	2,064	2,151	2,342	2,267	2,148	2,178	2,109	2,117	2,275	2,271	2,362	2,401
22 to 24 years old	1,243	1,300	1,350	1,467	1,594	1,612	1,551	1,517	1,598	1,606	1,564	1,662	1,653
25 to 29 years old	670	667	770	830	731	839	869	908	911	897	890	854	878
30 to 34 years old	350	332	387	382	409	424	440	430	383	377	367	338	422
35 years old and over	389	474	471	513	598	643	660	653	575	626	584	593	599
Men, full-time	3,662	3,740	3,808	3,929	3,926	3,891	3,855	3,807	3,851	3,890	3,934	4,026	4,111
14 to 17 years old	51	60	71	41	86	37	51	54	72	48	39	63	51
18 and 19 years old	1,171	1,289	1,230	1,141	1,130	1,079	1,081	1,091	1,126	1,154	1,240	1,271	1,250
20 and 21 years old	1,032	1,017	1,055	1,103	1,084	1,003	1,029	999	969	1,074	1,129	1,125	1,106
22 to 24 years old	723	696	742	817	854	896	811	789	858	770	777	788	839
25 to 29 years old	383	366	401	465	378	443	457	454	444	475	424	416	415
30 to 34 years old	158	151	156	174	174	180	193	183	143	160	141	149	195
35 years old and over	145	162	152	187	220	253	232	238	240	210	184	213	256
Women, full-time	3,775	3,921	4,013	4,186	4,235	4,237	4,283	4,321	4,452	4,548	4,630	4,761	4,899
14 to 17 years old	99	93	73	76	93	55	67	69	95	75	54	66	74
18 and 19 years old	1,357	1,383	1,318	1,325	1,253	1,291	1,240	1,296	1,426	1,380	1,555	1,577	1,682
20 and 21 years old	1,076	1,047	1,096	1,239	1,183	1,145	1,149	1,111	1,148	1,201	1,142	1,237	1,296
22 to 24 years old	520	604	608	650	739	716	740	729	740	836	787	875	814
25 to 29 years old	287	301	369	364	353	396	412	455	467	422	466	437	463
30 to 34 years old	192	182	231	208	235	244	247	247	240	217	226	190	227
35 years old and over	244	311	319	325	377	390	428	415	336	416	400	380	343
Part-time, total	5,618	5,878	5,998	6,244	6,325	6,177	6,141	6,133	6,065	6,064	5,944	6,005	6,303
14 to 17 years old	29	32	32	9	7	35	19	25	65	48	26	14	20
18 and 19 years old	412	370	402	399	402	470	466	507	485	526	588	566	599
20 and 21 years old	559	487	610	578	616	526	546	596	542	600	540	627	644
22 to 24 years old	825	885	794	840	933	958	930	894	727	869	813	772	964
25 to 29 years old	1,070	1,312	1,213	1,242	1,254	1,163	1,116	1,212	1,217	1,101	1,101	1,016	1,083
30 to 34 years old	933	973	935	1,033	1,046	921	973	805	813	732	828	806	843
35 years old and over	1,790	1,819	2,012	2,143	2,068	2,104	2,091	2,093	2,216	2,188	2,048	2,203	2,150
Men, part-time	2,340	2,450	2,476	2,572	2,597	2,537	2,517	2,535	2,502	2,506	2,436	2,465	2,611
14 to 17 years old	7	17	16	9	4	17	11	7	20	9	5	8	11
18 and 19 years old	172	144	191	158	176	210	220	246	228	260	296	269	333
20 and 21 years old	300	244	313	285	258	281	235	283	260	300	245	267	276
22 to 24 years old	408	388	365	415	417	448	427	365	319	430	350	302	454
25 to 29 years old	461	627	539	584	577	460	479	508	547	497	485	458	447
30 to 34 years old	431	411	381	440	453	404	408	378	334	283	322	369	332
35 years old and over	561	619	672	682	713	717	737	748	793	728	733	791	757
Women, part-time	3,278	3,428	3,521	3,671	3,728	3,640	3,624	3,598	3,563	3,559	3,508	3,540	3,692
14 to 17 years old	22	15	17	0	3	18	8	18	45	39	21	6	9
18 and 19 years old	240	226	211	241	226	261	245	261	257	267	292	297	266
20 and 21 years old	260	243	297	294	358	245	311	313	282	300	295	360	368
22 to 24 years old	417	497	429	425	516	510	504	529	407	439	463	470	510
25 to 29 years old	609	685	674	658	677	702	637	704	670	605	617	558	636
30 to 34 years old	503	562	554	593	593	517	565	427	479	449	506	438	511
35 years old and over	1,229	1,200	1,340	1,461	1,355	1,386	1,354	1,345	1,423	1,460	1,315	1,411	1,393

Table 11. Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with middle alternative projections: Fall 1988 to fall 2013—Continued

[In thousands]

Sex, age, and attendance status	Projected												
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Men and women, total	15,484	16,102	16,361	16,468	16,679	16,887	17,020	17,168	17,374	17,541	17,724	17,927	18,151
14 to 17 years old	128	147	151	152	157	162	166	165	164	162	161	162	163
18 and 19 years old	3,472	3,580	3,631	3,685	3,732	3,785	3,859	3,952	4,023	4,002	3,965	3,936	3,921
20 and 21 years old	3,308	3,337	3,357	3,357	3,405	3,466	3,485	3,517	3,592	3,695	3,764	3,761	3,749
22 to 24 years old	2,686	2,888	3,014	3,064	3,100	3,113	3,131	3,151	3,185	3,231	3,301	3,415	3,511
25 to 29 years old	1,964	2,014	2,056	2,097	2,170	2,251	2,303	2,340	2,372	2,393	2,420	2,461	2,520
30 to 34 years old	1,259	1,295	1,304	1,286	1,274	1,260	1,254	1,262	1,290	1,326	1,375	1,423	1,471
35 years old and over	2,667	2,841	2,848	2,828	2,842	2,850	2,822	2,780	2,748	2,731	2,738	2,768	2,815
Men, total	6,801	7,008	7,098	7,144	7,208	7,281	7,342	7,413	7,498	7,561	7,621	7,679	7,734
14 to 17 years old	52	61	62	62	64	66	68	67	66	65	65	65	65
18 and 19 years old	1,584	1,624	1,637	1,654	1,669	1,690	1,723	1,764	1,794	1,780	1,761	1,745	1,733
20 and 21 years old	1,556	1,539	1,551	1,549	1,562	1,585	1,591	1,604	1,637	1,683	1,710	1,702	1,691
22 to 24 years old	1,286	1,355	1,405	1,427	1,443	1,448	1,455	1,462	1,473	1,490	1,518	1,565	1,601
25 to 29 years old	887	902	918	936	963	995	1,018	1,037	1,050	1,058	1,067	1,079	1,096
30 to 34 years old	501	535	536	529	521	514	512	516	527	541	558	575	591
35 years old and over	934	992	990	986	985	984	975	963	951	943	943	948	958
Women, total	8,684	9,095	9,263	9,324	9,471	9,606	9,679	9,755	9,876	9,980	10,103	10,248	10,416
14 to 17 years old	75	86	89	90	93	96	99	98	98	97	97	97	99
18 and 19 years old	1,888	1,956	1,994	2,030	2,063	2,096	2,137	2,188	2,230	2,222	2,205	2,192	2,188
20 and 21 years old	1,753	1,799	1,806	1,808	1,842	1,881	1,894	1,913	1,954	2,012	2,054	2,059	2,058
22 to 24 years old	1,399	1,533	1,609	1,637	1,657	1,665	1,676	1,690	1,712	1,741	1,783	1,850	1,910
25 to 29 years old	1,077	1,111	1,138	1,161	1,207	1,256	1,285	1,303	1,322	1,336	1,353	1,382	1,424
30 to 34 years old	758	760	768	757	753	746	742	746	763	785	817	848	880
35 years old and over	1,733	1,849	1,859	1,842	1,857	1,867	1,847	1,817	1,797	1,788	1,795	1,820	1,857
Full-time, total	9,146	9,590	9,774	9,860	10,008	10,160	10,272	10,400	10,560	10,681	10,795	10,909	11,029
14 to 17 years old	117	128	131	132	137	141	145	144	143	142	141	141	143
18 and 19 years old	2,830	2,968	3,015	3,060	3,101	3,149	3,211	3,289	3,347	3,330	3,303	3,282	3,274
20 and 21 years old	2,581	2,633	2,653	2,653	2,694	2,744	2,759	2,785	2,846	2,930	2,986	2,987	2,982
22 to 24 years old	1,706	1,894	1,978	2,007	2,032	2,043	2,057	2,072	2,094	2,127	2,177	2,258	2,325
25 to 29 years old	856	909	931	950	985	1,023	1,048	1,064	1,080	1,092	1,106	1,129	1,161
30 to 34 years old	478	440	444	439	436	432	430	433	443	456	474	493	512
35 years old and over	578	618	622	619	624	628	622	613	607	605	609	618	633
Men, full-time	4,229	4,419	4,484	4,502	4,551	4,612	4,657	4,709	4,775	4,822	4,861	4,896	4,928
14 to 17 years old	42	52	53	53	54	56	57	57	56	56	55	55	55
18 and 19 years old	1,300	1,326	1,337	1,350	1,362	1,381	1,408	1,441	1,465	1,454	1,439	1,427	1,420
20 and 21 years old	1,226	1,242	1,252	1,248	1,260	1,280	1,284	1,294	1,321	1,358	1,380	1,376	1,369
22 to 24 years old	844	932	966	977	988	993	998	1,002	1,010	1,023	1,044	1,079	1,104
25 to 29 years old	394	433	441	447	461	478	488	496	503	507	512	519	530
30 to 34 years old	215	199	199	195	193	191	190	191	195	200	207	214	221
35 years old and over	208	236	235	233	233	234	232	228	225	224	224	226	230
Women, full-time	4,917	5,172	5,290	5,358	5,457	5,548	5,615	5,692	5,785	5,860	5,934	6,012	6,101
14 to 17 years old	75	76	79	80	82	85	87	87	86	86	86	87	88
18 and 19 years old	1,530	1,643	1,677	1,710	1,739	1,768	1,803	1,848	1,882	1,876	1,864	1,854	1,854
20 and 21 years old	1,355	1,392	1,401	1,405	1,434	1,465	1,475	1,491	1,525	1,572	1,605	1,611	1,613
22 to 24 years old	862	962	1,011	1,030	1,044	1,050	1,059	1,069	1,084	1,104	1,134	1,180	1,221
25 to 29 years old	462	476	490	503	524	546	559	568	578	585	594	609	631
30 to 34 years old	263	241	245	243	243	241	240	242	248	256	267	279	291
35 years old and over	370	382	387	387	391	394	391	385	382	381	384	392	403
Part-time, total	6,338	6,512	6,587	6,608	6,671	6,727	6,749	6,767	6,815	6,860	6,929	7,018	7,122
14 to 17 years old	11	19	20	20	20	21	21	21	21	21	21	21	21
18 and 19 years old	642	612	616	625	631	637	648	663	676	672	663	654	647
20 and 21 years old	727	704	705	704	711	722	726	731	746	765	778	775	767
22 to 24 years old	979	994	1,036	1,057	1,068	1,069	1,074	1,080	1,092	1,104	1,123	1,136	1,186
25 to 29 years old	1,108	1,105	1,125	1,147	1,185	1,228	1,256	1,275	1,292	1,302	1,314	1,332	1,360
30 to 34 years old	781	855	859	847	838	828	824	829	847	870	900	930	959
35 years old and over	2,089	2,223	2,226	2,208	2,218	2,223	2,200	2,167	2,141	2,126	2,130	2,150	2,183
Men, part-time	2,572	2,589	2,614	2,642	2,656	2,669	2,685	2,704	2,724	2,739	2,759	2,782	2,806
14 to 17 years old	10	9	9	10	10	10	10	10	10	10	10	10	10
18 and 19 years old	284	298	300	305	307	309	315	323	329	326	322	317	313
20 and 21 years old	330	297	299	301	302	305	307	310	316	324	329	327	323
22 to 24 years old	442	422	438	450	455	455	457	460	463	468	474	487	497
25 to 29 years old	493	469	477	489	502	517	530	541	547	551	555	560	567
30 to 34 years old	286	337	337	334	328	323	322	325	332	340	351	361	370
35 years old and over	727	756	754	753	752	750	744	735	726	720	719	722	728
Women, part-time	3,766	3,923	3,972	3,966	4,015	4,058	4,064	4,063	4,091	4,120	4,169	4,236	4,316
14 to 17 years old	1	10	10	10	11	11	11	11	11	11	11	11	11
18 and 19 years old	358	314	316	320	324	328	333	340	347	345	341	337	334
20 and 21 years old	397	407	406	403	408	417	419	421	430	441	449	448	445
22 to 24 years old	537	571	597	607	613	615	617	620	628	636	649	670	689
25 to 29 years old	615	635	648	658	683	710	726	735	745	751	759	773	793
30 to 34 years old	495	519	522	513	510	505	502	504	515	529	549	569	589
35 years old and over	1,363	1,467	1,472	1,455	1,466	1,473	1,457	1,432	1,415	1,407	1,411	1,428	1,455

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*)

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared June 2003.)

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Table 12. Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with low alternative projections: Selected years, fall 1993 to fall 2013

[In thousands]

Sex, age, and attendance status	Actual			Projected	
	1993	1998	2000	2008	2013
Men and women, total	14,305	14,507	15,312	16,830	17,671
14 to 17 years old	127	119	143	161	157
18 and 19 years old	2,840	3,382	3,531	3,887	3,838
20 and 21 years old	2,674	2,811	3,045	3,457	3,665
22 to 24 years old	2,570	2,377	2,617	3,086	3,415
25 to 29 years old	2,002	1,991	1,960	2,287	2,443
30 to 34 years old	1,345	1,193	1,265	1,233	1,425
35 years old and over	2,747	2,632	2,749	2,719	2,728
Men, total	6,427	6,369	6,722	7,316	7,602
14 to 17 years old	54	45	63	66	63
18 and 19 years old	1,288	1,535	1,583	1,744	1,706
20 and 21 years old	1,284	1,374	1,382	1,586	1,665
22 to 24 years old	1,344	1,127	1,293	1,442	1,572
25 to 29 years old	903	908	862	1,021	1,075
30 to 34 years old	584	463	527	509	579
35 years old and over	970	917	1,012	949	940
Women, total	7,877	8,138	8,591	9,514	10,070
14 to 17 years old	73	74	82	95	94
18 and 19 years old	1,552	1,847	1,948	2,144	2,132
20 and 21 years old	1,391	1,437	1,663	1,871	2,001
22 to 24 years old	1,226	1,250	1,324	1,644	1,842
25 to 29 years old	1,098	1,083	1,099	1,266	1,368
30 to 34 years old	761	732	738	724	845
35 years old and over	1,777	1,715	1,736	1,769	1,788
Full-time, total	8,128	8,563	9,010	10,168	10,704
14 to 17 years old	92	93	125	140	137
18 and 19 years old	2,370	2,794	2,932	3,228	3,196
20 and 21 years old	2,148	2,271	2,401	2,731	2,906
22 to 24 years old	1,612	1,564	1,653	2,021	2,250
25 to 29 years old	839	890	878	1,034	1,116
30 to 34 years old	424	367	422	420	491
35 years old and over	643	584	599	594	606
Men, full-time	3,891	3,934	4,111	4,643	4,832
14 to 17 years old	37	39	51	56	54
18 and 19 years old	1,079	1,240	1,250	1,423	1,395
20 and 21 years old	1,003	1,129	1,106	1,278	1,345
22 to 24 years old	896	777	839	987	1,081
25 to 29 years old	443	424	415	488	517
30 to 34 years old	180	141	195	188	216
35 years old and over	253	184	256	224	224
Women, full-time	4,237	4,630	4,899	5,525	5,872
14 to 17 years old	55	54	74	84	83
18 and 19 years old	1,291	1,555	1,682	1,805	1,801
20 and 21 years old	1,145	1,142	1,296	1,453	1,562
22 to 24 years old	716	787	814	1,034	1,169
25 to 29 years old	396	466	463	546	599
30 to 34 years old	244	226	227	232	276
35 years old and over	390	400	343	370	381
Part-time, total	6,177	5,944	6,303	6,662	6,968
14 to 17 years old	35	26	20	21	20
18 and 19 years old	470	588	599	659	642
20 and 21 years old	526	540	644	726	759
22 to 24 years old	958	813	964	1,065	1,164
25 to 29 years old	1,163	1,101	1,083	1,253	1,327
30 to 34 years old	921	828	843	813	933
35 years old and over	2,104	2,048	2,150	2,125	2,123
Men, part-time	2,537	2,436	2,611	2,673	2,770
14 to 17 years old	17	5	11	10	10
18 and 19 years old	210	296	333	321	311
20 and 21 years old	281	245	276	308	320
22 to 24 years old	448	350	454	455	491
25 to 29 years old	460	485	447	534	538
30 to 34 years old	404	322	332	321	364
35 years old and over	717	733	757	725	716
Women, part-time	3,640	3,508	3,692	3,989	4,198
14 to 17 years old	18	21	9	11	11
18 and 19 years old	261	292	266	338	331
20 and 21 years old	245	295	368	418	439
22 to 24 years old	510	463	510	610	673
25 to 29 years old	702	617	636	719	789
30 to 34 years old	517	506	511	492	569
35 years old and over	1,386	1,315	1,393	1,399	1,407

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared June 2003.)

Table 13. Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with high alternative projections: Selected years, fall 1993 to fall 2013

[In thousands]

Sex, age, and attendance status	Actual			Projected	
	1993	1998	2000	2008	2013
Men and women, total	**14,305**	**14,507**	**15,312**	**17,551**	**18,809**
14 to 17 years old	127	119	143	171	172
18 and 19 years old	2,840	3,382	3,531	4,021	4,029
20 and 21 years old	2,674	2,811	3,045	3,583	3,861
22 to 24 years old	2,570	2,377	2,617	3,224	3,643
25 to 29 years old	2,002	1,991	1,960	2,401	2,629
30 to 34 years old	1,345	1,195	1,265	1,296	1,536
35 years old and over	2,747	2,632	2,749	2,855	2,939
Men, total	**6,427**	**6,369**	**6,722**	**7,520**	**7,917**
14 to 17 years old	54	45	63	68	67
18 and 19 years old	1,288	1,535	1,583	1,787	1,769
20 and 21 years old	1,284	1,374	1,382	1,626	1,729
22 to 24 years old	1,344	1,127	1,293	1,485	1,642
25 to 29 years old	903	908	862	1,053	1,125
30 to 34 years old	584	463	527	524	606
35 years old and over	970	917	1,012	976	980
Women, total	**7,877**	**8,138**	**8,591**	**10,030**	**10,892**
14 to 17 years old	73	74	82	102	105
18 and 19 years old	1,552	1,847	1,948	2,234	2,260
20 and 21 years old	1,391	1,437	1,663	1,957	2,133
22 to 24 years old	1,226	1,250	1,324	1,740	2,002
25 to 29 years old	1,098	1,083	1,099	1,348	1,504
30 to 34 years old	761	732	738	772	931
35 years old and over	1,777	1,715	1,736	1,878	1,959
Full-time, total	**8,128**	**8,563**	**9,010**	**10,657**	**11,471**
14 to 17 years old	92	93	125	149	150
18 and 19 years old	2,370	2,794	2,932	3,354	3,376
20 and 21 years old	2,148	2,271	2,401	2,844	3,083
22 to 24 years old	1,612	1,564	1,653	2,128	2,427
25 to 29 years old	839	890	878	1,099	1,223
30 to 34 years old	424	367	422	448	541
35 years old and over	643	584	599	635	670
Men, full-time	**3,891**	**3,934**	**4,111**	**4,795**	**5,073**
14 to 17 years old	37	39	51	58	57
18 and 19 years old	1,079	1,240	1,250	1,463	1,455
20 and 21 years old	1,003	1,129	1,106	1,315	1,404
22 to 24 years old	896	777	839	1,022	1,139
25 to 29 years old	443	424	415	508	549
30 to 34 years old	180	141	195	196	230
35 years old and over	253	184	256	234	239
Women, full-time	**4,237**	**4,630**	**4,899**	**5,862**	**6,398**
14 to 17 years old	55	54	74	91	94
18 and 19 years old	1,291	1,555	1,682	1,890	1,921
20 and 21 years old	1,145	1,142	1,296	1,529	1,679
22 to 24 years old	716	787	814	1,106	1,288
25 to 29 years old	396	466	463	592	674
30 to 34 years old	244	226	227	252	312
35 years old and over	390	400	343	402	431
Part-time, total	**6,177**	**5,944**	**6,303**	**6,894**	**7,338**
14 to 17 years old	35	26	20	22	21
18 and 19 years old	470	588	599	667	653
20 and 21 years old	526	540	644	738	778
22 to 24 years old	958	813	964	1,097	1,216
25 to 29 years old	1,163	1,101	1,083	1,302	1,406
30 to 34 years old	921	828	843	848	995
35 years old and over	2,104	2,048	2,150	2,219	2,269
Men, part-time	**2,537**	**2,436**	**2,611**	**2,725**	**2,844**
14 to 17 years old	17	5	11	10	10
18 and 19 years old	210	296	333	324	314
20 and 21 years old	281	245	276	311	324
22 to 24 years old	448	350	454	463	503
25 to 29 years old	460	485	447	546	576
30 to 34 years old	404	322	332	329	376
35 years old and over	717	733	757	743	741
Women, part-time	**3,640**	**3,508**	**3,692**	**4,169**	**4,494**
14 to 17 years old	18	21	9	11	12
18 and 19 years old	261	292	266	344	338
20 and 21 years old	245	295	368	427	454
22 to 24 years old	510	463	510	634	714
25 to 29 years old	702	617	636	756	830
30 to 34 years old	517	506	511	519	619
35 years old and over	1,386	1,315	1,393	1,476	1,528

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared June 2003.)

Table 14. Total enrollment in all degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1988	13,055	3,662	2,340	3,775	3,278
1989	13,539	3,740	2,450	3,921	3,428
1990	13,819	3,808	2,476	4,013	3,521
1991	14,359	3,929	2,572	4,186	3,671
1992	14,486	3,926	2,597	4,235	3,728
1993	14,305	3,891	2,537	4,237	3,640
1994	14,279	3,855	2,517	4,283	3,624
1995	14,262	3,807	2,535	4,321	3,598
1996	14,368	3,851	2,502	4,452	3,563
1997	14,502	3,890	2,506	4,548	3,559
1998	14,507	3,934	2,436	4,630	3,508
1999	14,791	4,026	2,465	4,761	3,540
2000	15,312	4,111	2,611	4,899	3,692
		Middle alternative projections			
2001	15,484	4,229	2,572	4,917	3,766
2002	16,102	4,419	2,589	5,172	3,923
2003	16,361	4,484	2,614	5,290	3,972
2004	16,468	4,502	2,642	5,358	3,966
2005	16,679	4,551	2,656	5,457	4,015
2006	16,887	4,612	2,669	5,548	4,058
2007	17,020	4,657	2,685	5,615	4,064
2008	17,168	4,709	2,704	5,692	4,063
2009	17,374	4,775	2,724	5,785	4,091
2010	17,541	4,822	2,739	5,860	4,120
2011	17,724	4,861	2,759	5,934	4,169
2012	17,927	4,896	2,782	6,012	4,236
2013	18,151	4,928	2,806	6,101	4,316
		Low alternative projections			
2001	15,484	4,229	2,572	4,917	3,766
2002	16,047	4,401	2,591	5,151	3,903
2003	16,245	4,453	2,612	5,242	3,937
2004	16,330	4,474	2,632	5,291	3,934
2005	16,489	4,517	2,639	5,361	3,972
2006	16,630	4,564	2,647	5,421	3,999
2007	16,723	4,600	2,658	5,468	3,997
2008	16,830	4,643	2,674	5,524	3,989
2009	16,995	4,699	2,691	5,599	4,006
2010	17,140	4,740	2,705	5,663	4,031
2011	17,289	4,774	2,724	5,723	4,069
2012	17,463	4,804	2,746	5,789	4,125
2013	17,671	4,832	2,770	5,871	4,198
		High alternative projections			
2001	15,484	4,229	2,572	4,917	3,766
2002	16,053	4,402	2,594	5,157	3,900
2003	16,355	4,471	2,623	5,300	3,961
2004	16,552	4,514	2,650	5,399	3,988
2005	16,825	4,584	2,666	5,521	4,054
2006	17,100	4,661	2,681	5,641	4,117
2007	17,317	4,725	2,701	5,744	4,147
2008	17,551	4,795	2,725	5,861	4,169
2009	17,837	4,877	2,750	5,993	4,217
2010	18,068	4,937	2,770	6,098	4,264
2011	18,301	4,989	2,793	6,195	4,325
2012	18,549	5,034	2,818	6,293	4,403
2013	18,809	5,073	2,844	6,398	4,494

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.)* Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 15. Total enrollment in public 4-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1988	5,546	1,910	722	1,932	982
1989	5,694	1,938	743	1,997	1,017
1990	5,848	1,982	764	2,051	1,050
1991	5,905	2,006	765	2,083	1,051
1992	5,900	2,005	760	2,090	1,045
1993	5,852	1,989	750	2,085	1,027
1994	5,825	1,966	738	2,100	1,022
1995	5,815	1,931	720	2,134	1,009
1996	5,806	1,943	703	2,163	997
1997	5,835	1,951	687	2,214	984
1998	5,892	1,959	685	2,260	988
1999	5,970	1,984	686	2,309	991
2000	6,055	2,009	683	2,363	1,001
Middle alternative projections					
2001	6,224	2,092	701	2,388	1,043
2002	6,499	2,189	706	2,516	1,089
2003	6,611	2,222	713	2,574	1,103
2004	6,658	2,231	719	2,607	1,100
2005	6,748	2,256	723	2,655	1,114
2006	6,838	2,286	726	2,700	1,126
2007	6,896	2,307	729	2,733	1,126
2008	6,961	2,333	734	2,770	1,125
2009	7,051	2,366	738	2,817	1,131
2010	7,129	2,392	743	2,855	1,139
2011	7,210	2,414	750	2,893	1,153
2012	7,297	2,433	758	2,932	1,174
2013	7,390	2,450	766	2,975	1,198
Low alternative projections					
2001	6,224	2,092	701	2,388	1,043
2002	6,608	2,235	733	2,548	1,092
2003	6,664	2,250	732	2,584	1,099
2004	6,674	2,249	731	2,599	1,095
2005	6,721	2,262	728	2,627	1,104
2006	6,766	2,278	727	2,651	1,110
2007	6,795	2,290	727	2,670	1,108
2008	6,834	2,307	728	2,695	1,104
2009	6,901	2,333	731	2,730	1,107
2010	6,965	2,355	735	2,763	1,113
2011	7,029	2,372	741	2,792	1,124
2012	7,102	2,388	748	2,825	1,141
2013	7,188	2,403	756	2,865	1,164
High alternative projections					
2001	6,224	2,092	701	2,388	1,043
2002	6,532	2,205	717	2,527	1,083
2003	6,642	2,231	721	2,590	1,100
2004	6,713	2,246	725	2,634	1,107
2005	6,822	2,278	728	2,691	1,126
2006	6,935	2,314	731	2,748	1,143
2007	7,025	2,343	735	2,797	1,151
2008	7,126	2,377	740	2,853	1,156
2009	7,249	2,417	746	2,918	1,168
2010	7,353	2,449	752	2,971	1,180
2011	7,456	2,477	760	3,020	1,198
2012	7,561	2,502	768	3,069	1,222
2013	7,669	2,522	777	3,120	1,251

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

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Table 16. Total enrollment in public 2–year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1988	4,615	746	1,231	822	1,817
1989	4,884	793	1,302	881	1,907
1990	4,996	811	1,318	906	1,962
1991	5,405	882	1,414	1,004	2,105
1992	5,485	878	1,431	1,037	2,138
1993	5,337	859	1,386	1,030	2,063
1994	5,308	848	1,379	1,038	2,044
1995	5,278	819	1,417	1,022	2,020
1996	5,314	833	1,423	1,039	2,019
1997	5,361	842	1,444	1,049	2,026
1998	5,246	841	1,383	1,040	1,981
1999	5,339	868	1,404	1,063	2,005
2000	5,697	891	1,549	1,109	2,148
Middle alternative projections					
2001	5,671	915	1,487	1,115	2,153
2002	5,855	951	1,497	1,166	2,241
2003	5,935	963	1,512	1,191	2,268
2004	5,969	967	1,530	1,207	2,266
2005	6,038	977	1,539	1,228	2,293
2006	6,104	990	1,547	1,248	2,319
2007	6,146	1,001	1,558	1,264	2,324
2008	6,192	1,014	1,570	1,282	2,326
2009	6,257	1,028	1,583	1,302	2,344
2010	6,302	1,034	1,592	1,315	2,361
2011	6,356	1,038	1,601	1,328	2,388
2012	6,419	1,042	1,612	1,343	2,423
2013	6,493	1,045	1,623	1,361	2,464
Low alternative projections					
2001	5,671	915	1,487	1,115	2,153
2002	5,827	954	1,465	1,185	2,224
2003	5,890	961	1,486	1,198	2,245
2004	5,920	964	1,506	1,204	2,246
2005	5,972	972	1,517	1,215	2,268
2006	6,018	981	1,526	1,226	2,285
2007	6,048	990	1,537	1,235	2,286
2008	6,082	1,001	1,550	1,247	2,284
2009	6,134	1,012	1,562	1,262	2,297
2010	6,173	1,017	1,571	1,273	2,312
2011	6,216	1,020	1,580	1,282	2,333
2012	6,269	1,023	1,591	1,294	2,362
2013	6,338	1,026	1,602	1,311	2,400
High alternative projections					
2001	5,671	915	1,487	1,115	2,153
2002	5,835	949	1,489	1,170	2,228
2003	5,931	961	1,511	1,198	2,261
2004	5,996	970	1,530	1,219	2,277
2005	6,085	985	1,541	1,244	2,315
2006	6,174	1,001	1,552	1,270	2,351
2007	6,244	1,016	1,565	1,294	2,369
2008	6,317	1,032	1,581	1,320	2,384
2009	6,408	1,049	1,597	1,349	2,413
2010	6,474	1,058	1,608	1,368	2,440
2011	6,544	1,065	1,619	1,386	2,474
2012	6,621	1,070	1,631	1,405	2,514
2013	6,707	1,075	1,643	1,427	2,562

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.)* Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 17. Total enrollment in private 4-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1988	2,634	933	347	918	436
1989	2,693	933	360	938	463
1990	2,730	944	361	959	466
1991	2,802	962	367	990	483
1992	2,864	970	375	1,016	503
1993	2,887	973	369	1,037	508
1994	2,924	978	367	1,063	516
1995	2,955	978	364	1,089	523
1996	2,998	991	356	1,133	518
1997	3,061	1,008	360	1,170	523
1998	3,126	1,038	353	1,220	514
1999	3,229	1,073	360	1,276	519
2000	3,308	1,107	365	1,315	522
Middle alternative projections					
2001	3,330	1,120	367	1,300	543
2002	3,479	1,173	370	1,370	566
2003	3,540	1,191	373	1,402	574
2004	3,565	1,196	377	1,420	572
2005	3,614	1,209	378	1,447	579
2006	3,661	1,225	380	1,471	585
2007	3,692	1,237	381	1,488	586
2008	3,725	1,250	383	1,508	585
2009	3,772	1,267	385	1,533	588
2010	3,814	1,281	387	1,554	592
2011	3,859	1,293	391	1,576	599
2012	3,910	1,306	395	1,599	610
2013	3,964	1,316	400	1,625	623
Low alternative projections					
2001	3,330	1,120	367	1,300	543
2002	3,339	1,124	367	1,301	548
2003	3,416	1,148	370	1,341	557
2004	3,461	1,163	372	1,367	560
2005	3,519	1,182	374	1,396	567
2006	3,566	1,200	375	1,419	573
2007	3,599	1,213	376	1,437	573
2008	3,630	1,226	378	1,455	572
2009	3,673	1,242	380	1,478	574
2010	3,713	1,256	382	1,498	577
2011	3,753	1,268	385	1,517	583
2012	3,799	1,279	390	1,537	592
2013	3,850	1,290	394	1,562	605
High alternative projections					
2001	3,330	1,120	367	1,300	543
2002	3,417	1,150	368	1,342	558
2003	3,508	1,176	373	1,390	569
2004	3,565	1,192	377	1,422	574
2005	3,636	1,214	379	1,459	584
2006	3,703	1,236	381	1,493	594
2007	3,756	1,253	383	1,521	598
2008	3,811	1,272	386	1,553	601
2009	3,878	1,294	389	1,588	607
2010	3,935	1,312	392	1,618	613
2011	3,993	1,328	396	1,646	623
2012	4,054	1,343	401	1,675	635
2013	4,117	1,356	406	1,705	650

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.)* Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 18. Total enrollment in private 2-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1988	260	73	40	103	44
1989	267	76	45	105	41
1990	244	71	34	96	43
1991	247	80	27	109	32
1992	238	74	30	91	43
1993	229	70	31	85	43
1994	221	64	33	82	43
1995	215	60	33	77	45
1996	249	84	19	117	29
1997	245	89	14	115	26
1998	243	95	14	109	25
1999	253	101	15	112	25
2000	251	105	13	112	21
Middle alternative projections					
2001	259	102	16	115	26
2002	269	106	16	120	27
2003	274	107	16	122	28
2004	276	108	17	124	28
2005	280	109	17	126	28
2006	284	110	17	128	28
2007	287	112	17	130	28
2008	290	113	17	132	28
2009	294	115	17	134	29
2010	296	115	17	135	29
2011	299	116	17	136	29
2012	301	116	17	138	30
2013	304	116	18	140	30
Low alternative projections					
2001	259	102	16	115	26
2002	272	89	27	117	38
2003	274	94	24	120	36
2004	275	98	22	121	34
2005	277	101	21	123	32
2006	280	105	19	125	31
2007	282	107	19	126	30
2008	284	109	18	128	29
2009	287	111	18	129	29
2010	289	112	18	131	29
2011	291	113	17	132	29
2012	293	114	17	133	29
2013	296	114	17	135	30
High alternative projections					
2001	259	102	16	115	26
2002	269	99	20	119	32
2003	274	103	19	122	30
2004	278	106	18	125	30
2005	283	108	18	128	29
2006	288	111	17	130	29
2007	292	113	17	133	29
2008	297	115	17	136	29
2009	302	117	17	139	30
2010	306	118	17	141	30
2011	309	119	18	142	30
2012	312	119	18	144	31
2013	316	120	18	147	31

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.)* Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 19. Total undergraduate enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1988	11,317	5,138	6,179	6,642	4,674	9,103	2,213
1989	11,743	5,311	6,432	6,841	4,902	9,488	2,255
1990	11,959	5,380	6,579	6,976	4,983	9,710	2,250
1991	12,439	5,571	6,868	7,221	5,218	10,148	2,291
1992	12,537	5,582	6,954	7,243	5,293	10,216	2,320
1993	12,324	5,484	6,840	7,179	5,144	10,012	2,312
1994	12,263	5,422	6,840	7,169	5,094	9,945	2,317
1995	12,232	5,401	6,831	7,145	5,086	9,904	2,328
1996	12,327	5,421	6,906	7,299	5,028	9,935	2,392
1997	12,451	5,469	6,982	7,419	5,032	10,007	2,443
1998	12,437	5,446	6,991	7,539	4,898	9,950	2,487
1999	12,681	5,559	7,122	7,735	4,946	10,110	2,571
2000	13,155	5,778	7,377	7,923	5,232	10,539	2,616
Middle alternative projections							
2001	13,300	5,835	7,465	8,054	5,246	10,649	2,651
2002	13,829	6,008	7,821	8,438	5,392	11,058	2,771
2003	14,048	6,085	7,963	8,592	5,456	11,229	2,820
2004	14,146	6,127	8,019	8,668	5,478	11,304	2,842
2005	14,329	6,183	8,146	8,797	5,532	11,447	2,882
2006	14,511	6,248	8,264	8,931	5,580	11,589	2,922
2007	14,634	6,304	8,331	9,033	5,602	11,683	2,951
2008	14,775	6,370	8,405	9,152	5,622	11,790	2,984
2009	14,965	6,448	8,517	9,298	5,667	11,937	3,028
2010	15,109	6,502	8,608	9,403	5,706	12,047	3,062
2011	15,255	6,547	8,708	9,493	5,762	12,161	3,094
2012	15,404	6,586	8,818	9,572	5,832	12,281	3,123
2013	15,568	6,622	8,946	9,657	5,911	12,414	3,154
Low alternative projections							
2001	13,300	5,835	7,465	8,054	5,246	10,649	2,651
2002	13,887	6,015	7,872	8,458	5,429	11,168	2,719
2003	14,037	6,077	7,960	8,567	5,470	11,268	2,769
2004	14,095	6,110	7,985	8,617	5,478	11,299	2,795
2005	14,216	6,151	8,065	8,708	5,508	11,383	2,833
2006	14,328	6,196	8,132	8,797	5,532	11,462	2,866
2007	14,407	6,239	8,168	8,869	5,539	11,517	2,890
2008	14,506	6,293	8,213	8,960	5,546	11,588	2,918
2009	14,656	6,359	8,296	9,078	5,578	11,700	2,956
2010	14,779	6,407	8,372	9,168	5,610	11,792	2,987
2011	14,894	6,445	8,449	9,239	5,655	11,881	3,013
2012	15,018	6,479	8,540	9,303	5,715	11,980	3,038
2013	15,170	6,511	8,658	9,380	5,789	12,102	3,068
High alternative projections							
2001	13,300	5,835	7,465	8,054	5,246	10,649	2,651
2002	13,844	6,014	7,830	8,434	5,409	11,093	2,751
2003	14,078	6,092	7,985	8,604	5,473	11,266	2,812
2004	14,237	6,150	8,086	8,723	5,514	11,384	2,852
2005	14,463	6,222	8,242	8,886	5,578	11,558	2,905
2006	14,696	6,301	8,395	9,056	5,641	11,738	2,959
2007	14,887	6,375	8,512	9,203	5,683	11,884	3,003
2008	15,098	6,461	8,637	9,373	5,725	12,046	3,052
2009	15,354	6,556	8,797	9,564	5,790	12,243	3,110
2010	15,551	6,624	8,927	9,705	5,846	12,395	3,156
2011	15,738	6,682	9,056	9,824	5,914	12,541	3,197
2012	15,923	6,731	9,192	9,929	5,994	12,689	3,234
2013	16,116	6,774	9,342	10,032	6,084	12,844	3,272

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 20. Total graduate enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1988	1,472	697	774	553	919	949	522
1989	1,522	710	811	572	949	978	544
1990	1,586	737	849	599	987	1,023	563
1991	1,639	761	878	642	997	1,050	589
1992	1,669	772	896	666	1,003	1,058	611
1993	1,688	771	917	688	1,000	1,064	625
1994	1,721	776	945	706	1,016	1,075	647
1995	1,732	767	965	717	1,015	1,074	659
1996	1,742	759	982	737	1,005	1,069	674
1997	1,753	758	996	752	1,001	1,070	683
1998	1,768	754	1,013	754	1,014	1,067	701
1999	1,807	766	1,041	781	1,026	1,077	730
2000	1,850	780	1,070	813	1,037	1,089	761
Middle alternative projections							
2001	1,868	791	1,077	810	1,058	1,119	749
2002	1,941	817	1,124	855	1,086	1,162	779
2003	1,973	827	1,145	876	1,096	1,181	792
2004	1,980	831	1,149	884	1,095	1,185	795
2005	2,003	836	1,167	899	1,104	1,199	804
2006	2,024	842	1,181	912	1,112	1,211	813
2007	2,032	846	1,185	919	1,112	1,216	816
2008	2,036	850	1,186	926	1,110	1,218	818
2009	2,049	855	1,194	936	1,113	1,226	824
2010	2,067	862	1,205	949	1,118	1,236	831
2011	2,098	873	1,224	967	1,131	1,254	843
2012	2,142	889	1,254	992	1,150	1,281	862
2013	2,193	904	1,288	1,019	1,174	1,311	882
Low alternative projections							
2001	1,868	791	1,077	810	1,058	1,119	749
2002	1,830	791	1,039	797	1,033	1,136	694
2003	1,873	801	1,072	825	1,047	1,153	720
2004	1,898	808	1,090	843	1,056	1,160	739
2005	1,932	817	1,115	862	1,070	1,173	759
2006	1,957	824	1,133	877	1,080	1,183	774
2007	1,970	829	1,140	887	1,083	1,187	783
2008	1,976	833	1,143	894	1,082	1,188	789
2009	1,989	838	1,150	903	1,085	1,193	796
2010	2,007	845	1,161	916	1,091	1,203	804
2011	2,035	856	1,179	932	1,103	1,218	816
2012	2,076	871	1,205	956	1,120	1,242	834
2013	2,125	886	1,238	981	1,143	1,271	854
High alternative projections							
2001	1,868	791	1,077	810	1,058	1,119	749
2002	1,880	798	1,082	828	1,052	1,143	738
2003	1,939	816	1,123	862	1,077	1,171	768
2004	1,972	827	1,145	881	1,090	1,186	785
2005	2,011	838	1,173	904	1,107	1,208	804
2006	2,046	848	1,198	924	1,122	1,227	819
2007	2,068	855	1,213	939	1,129	1,239	829
2008	2,086	863	1,224	953	1,133	1,249	837
2009	2,111	871	1,240	969	1,142	1,263	848
2010	2,138	880	1,258	987	1,152	1,279	859
2011	2,177	893	1,283	1,009	1,167	1,302	875
2012	2,229	911	1,318	1,039	1,190	1,333	896
2013	2,285	928	1,357	1,069	1,216	1,366	919

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.)* Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 21. Total first-professional enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1988	267	167	100	241	26	109	158
1989	274	169	106	248	27	113	162
1990	273	167	107	246	28	112	162
1991	281	170	111	252	29	111	169
1992	281	169	112	252	29	111	170
1993	292	173	120	260	33	114	179
1994	295	174	121	263	31	114	181
1995	298	174	124	266	31	115	183
1996	298	173	126	267	31	117	182
1997	298	170	129	267	31	118	180
1998	302	169	134	271	31	121	182
1999	303	165	138	271	33	123	180
2000	307	164	143	274	33	124	183
Middle alternative projections							
2001	316	174	142	282	33	127	189
2002	332	183	149	298	34	134	198
2003	340	186	154	305	34	137	203
2004	342	186	156	308	34	138	204
2005	347	189	159	313	34	140	207
2006	352	191	161	317	35	142	210
2007	355	192	162	320	35	143	211
2008	357	193	163	322	35	144	213
2009	360	195	165	326	35	146	215
2010	365	197	168	330	35	147	217
2011	371	200	171	336	35	150	221
2012	380	204	176	345	36	154	226
2013	390	208	182	354	36	158	232
Low alternative projections							
2001	316	174	142	282	33	127	189
2002	329	187	142	298	31	131	198
2003	335	188	147	303	32	134	201
2004	337	188	150	305	32	135	202
2005	341	189	153	308	33	137	205
2006	345	190	155	311	33	138	206
2007	346	190	156	313	34	139	207
2008	348	191	157	314	34	140	208
2009	350	192	158	316	34	141	209
2010	354	193	161	320	34	143	211
2011	360	196	164	325	34	145	214
2012	368	200	168	333	35	149	219
2013	377	204	173	342	36	153	225
High alternative projections							
2001	316	174	142	282	33	127	189
2002	329	183	146	297	32	132	198
2003	338	186	152	305	33	136	203
2004	344	188	156	310	34	138	205
2005	351	190	160	316	34	141	209
2006	357	193	164	322	35	144	213
2007	362	195	167	327	35	146	216
2008	367	197	169	331	35	148	218
2009	372	200	173	337	35	151	222
2010	378	202	176	343	36	153	225
2011	386	206	180	350	36	157	230
2012	397	211	186	360	37	161	236
2013	408	215	193	370	38	166	242

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

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Table 22. Total full-time-equivalent enrollment in all degree-granting institutions, by control and type of institution, with alternative projections: Fall 1988 to fall 2013

[In thousands]

Year	Total	Public		Private	
		4-year	2-year	4-year	2-year
1988	9,466	4,506	2,591	2,160	209
1989	9,783	4,620	2,752	2,196	216
1990	9,985	4,740	2,818	2,230	197
1991	10,363	4,796	3,067	2,288	212
1992	10,438	4,798	3,114	2,333	194
1993	10,353	4,766	3,046	2,357	184
1994	10,349	4,750	3,035	2,389	176
1995	10,337	4,757	2,994	2,418	168
1996	10,482	4,767	3,028	2,467	219
1997	10,615	4,814	3,056	2,525	220
1998	10,699	4,869	3,011	2,599	220
1999	10,944	4,945	3,075	2,694	229
2000	11,267	5,026	3,241	2,770	231
Middle alternative projections					
2001	11,421	5,157	3,252	2,777	233
2002	11,928	5,402	3,372	2,910	243
2003	12,138	5,502	3,424	2,965	247
2004	12,232	5,545	3,448	2,989	249
2005	12,402	5,625	3,492	3,032	253
2006	12,574	5,706	3,537	3,075	256
2007	12,694	5,761	3,568	3,105	259
2008	12,829	5,825	3,604	3,138	263
2009	13,005	5,909	3,648	3,182	266
2010	13,143	5,979	3,676	3,219	269
2011	13,282	6,047	3,706	3,258	271
2012	13,428	6,116	3,739	3,299	273
2013	13,585	6,189	3,778	3,343	275
Low alternative projections					
2001	11,421	5,157	3,252	2,777	233
2002	11,887	5,493	3,377	2,784	233
2003	12,049	5,546	3,412	2,853	238
2004	12,123	5,558	3,428	2,896	241
2005	12,252	5,601	3,458	2,947	246
2006	12,371	5,643	3,487	2,991	249
2007	12,457	5,673	3,509	3,022	252
2008	12,559	5,714	3,535	3,054	256
2009	12,702	5,778	3,570	3,094	259
2010	12,821	5,836	3,594	3,131	261
2011	12,934	5,890	3,616	3,165	263
2012	13,058	5,948	3,643	3,202	265
2013	13,205	6,014	3,680	3,244	267
High alternative projections					
2001	11,421	5,157	3,252	2,777	233
2002	11,892	5,432	3,367	2,855	238
2003	12,135	5,529	3,426	2,936	245
2004	12,297	5,592	3,467	2,988	249
2005	12,518	5,689	3,524	3,051	254
2006	12,742	5,790	3,581	3,111	259
2007	12,927	5,873	3,630	3,160	264
2008	13,131	5,967	3,683	3,212	269
2009	13,370	6,079	3,744	3,273	274
2010	13,559	6,172	3,786	3,324	277
2011	13,738	6,259	3,825	3,374	280
2012	13,920	6,345	3,867	3,425	283
2013	14,106	6,430	3,914	3,476	286

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table 23. High school graduates, by control of institution, with projections: 1987–88 to 2012–13

[In thousands]

Year ending	Total	Public	Private
1988 [1]	2,773	2,500	273
1989 [2]	2,744	2,459	285
1990 [3]	2,589	2,320	269
1991 [2]	2,493	2,235	258
1992 [3]	2,478	2,226	252
1993 [2]	2,481	2,233	247
1994 [3]	2,464	2,221	243
1995 [2]	2,519	2,274	246
1996 [3]	2,518	2,273	245
1997 [2]	2,612	2,358	254
1998 [3]	2,704	2,439	265
1999 [2]	2,759	2,486	273
2000 [3]	2,833	2,554	279
2001 [3]	2,852	2,569	283
	Projected		
2002	2,917	2,630	287
2003	2,986	2,685	301
2004	3,002	2,698	305
2005	3,037	2,728	308
2006	3,101	2,785	316
2007	3,172	2,850	322
2008	3,262	2,931	331
2009	3,274	2,942	332
2010	3,262	2,930	331
2011	3,237	2,906	331
2012	3,202	2,870	331
2013	3,176	2,843	333

[1] Private school numbers are interpolated based on data from the 1985 Private School Survey.

[2] Private school numbers are from the Private School Universe Survey.

[3] Private school numbers are interpolated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. Prior to 1989–90, numbers for private high school graduates were estimated by NCES. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Universe Survey (PSS), various years; 1985 Private School Survey; and National Elementary and Secondary High School Graduates Enrollment Model. (This table was prepared June 2003.)

Table 24. High school graduates in public schools, by region and state, with projections: 1994–95 to 2012–13

Region and state	Actual							Projected		
	1994–95	1995–96	1996–97	1997–98	1998–99	1999–2000	2000–01	2001–02	2002–03	2003–04
United States	2,273,541	2,273,109	2,358,403	2,439,050	2,485,630	2,553,844	2,568,956	2,630,130	2,684,920	2,697,510
Northeast	413,417	417,843	432,280	430,450	437,156	453,814	457,638	468,500	477,360	487,340
Connecticut	26,445	26,319	27,029	27,885	28,284	31,562	30,388	32,610	32,980	34,140
Maine	11,501	11,795	12,019	12,171	11,988	12,211	12,654	12,620	12,950	13,140
Massachusetts	47,679	47,993	49,008	50,452	51,465	52,950	54,393	55,590	55,250	55,360
New Hampshire	10,145	10,094	10,487	10,843	11,251	11,829	12,294	12,480	12,950	12,990
New Jersey	67,403	67,704	70,028	65,106	67,410	74,420	76,130	78,290	82,320	85,510
New York	132,401	134,401	140,861	138,531	139,426	141,731	141,884	144,820	146,030	147,260
Pennsylvania	104,146	105,981	108,817	110,919	112,632	113,959	114,436	116,150	118,980	122,820
Rhode Island	7,826	7,689	7,850	8,074	8,179	8,477	8,603	8,900	9,080	9,230
Vermont	5,871	5,867	6,181	6,469	6,521	6,675	6,856	7,040	6,820	6,890
Midwest	596,753	592,775	614,217	640,857	645,322	648,020	644,770	661,710	679,070	677,670
Illinois	105,164	104,626	110,170	114,611	112,556	111,835	110,624	117,430	120,570	120,160
Indiana	56,058	56,330	57,463	58,899	58,964	57,012	56,172	56,350	56,460	56,110
Iowa	31,268	31,689	32,986	34,189	34,378	33,926	33,774	33,580	34,290	33,520
Kansas	26,125	25,786	26,648	27,856	28,685	29,102	29,360	29,840	29,850	29,690
Michigan	84,628	85,530	89,695	92,732	94,125	97,679	96,515	104,550	110,610	113,380
Minnesota	49,354	50,481	48,193	54,628	56,964	57,372	56,581	59,090	59,980	59,700
Missouri	48,862	49,011	50,543	52,095	52,531	52,848	54,138	54,050	54,890	54,560
Nebraska	17,969	18,014	18,636	19,719	20,550	20,149	19,658	20,330	20,250	19,770
North Dakota	7,817	8,027	8,025	8,170	8,388	8,606	8,445	8,060	8,030	7,780
Ohio	109,418	102,098	107,422	111,211	111,112	111,668	111,281	109,220	113,610	112,830
South Dakota	8,355	8,532	9,247	9,140	8,757	9,278	8,881	8,950	8,800	8,840
Wisconsin	51,735	52,651	55,189	57,607	58,312	58,545	59,341	60,260	61,730	61,330
South	770,737	766,273	789,143	821,372	835,286	861,498	866,409	885,260	906,670	903,070
Alabama	36,268	35,043	35,611	38,089	36,244	37,819	37,082	37,260	36,850	36,450
Arkansas	24,636	25,094	25,146	26,855	26,896	27,335	27,100	26,890	27,410	26,590
Delaware	5,234	5,609	5,953	6,439	6,484	6,108	6,614	6,600	6,770	6,780
District of Columbia	2,974	2,696	2,853	2,777	2,675	2,695	2,808	2,760	2,560	2,430
Florida	89,827	89,242	95,082	98,498	102,386	106,708	111,112	120,050	120,340	116,790
Georgia	56,660	56,271	58,996	58,525	59,227	62,563	62,499	65,520	67,100	68,220
Kentucky	37,626	36,641	36,941	37,270	37,048	36,830	36,957	34,890	34,360	33,870
Louisiana	36,480	36,467	36,495	38,030	37,802	38,430	38,314	37,910	37,710	34,600
Maryland	41,387	41,785	42,856	44,555	46,214	47,849	49,222	50,490	51,520	52,480
Mississippi	23,837	23,032	23,388	24,502	24,198	24,232	23,748	23,510	23,380	23,000
North Carolina	59,540	57,014	57,886	59,292	60,081	62,140	63,288	66,100	68,310	69,350
Oklahoma	33,319	33,060	33,536	35,213	36,556	37,646	37,458	36,510	36,280	36,130
South Carolina	30,680	30,182	30,829	31,373	31,495	31,617	29,742	31,450	33,140	33,020
Tennessee	43,556	43,792	41,617	39,866	40,823	41,568	40,642	42,240	43,580	43,640
Texas	170,322	171,844	181,794	197,186	203,393	212,925	215,316	219,340	228,510	231,080
Virginia	58,260	58,166	60,587	62,738	63,875	65,596	66,067	66,630	71,620	71,800
West Virginia	20,131	20,335	19,573	20,164	19,889	19,437	18,440	17,110	17,230	16,840
West	492,634	496,218	522,763	546,371	567,866	590,512	600,139	614,660	621,820	629,430
Alaska	5,765	5,945	6,133	6,462	6,810	6,615	6,812	6,790	7,160	7,060
Arizona	30,989	30,008	34,082	36,361	35,728	38,304	46,773	44,830	47,610	48,970
California	255,200	259,071	269,071	282,897	299,221	309,866	315,189	326,140	331,730	334,000
Colorado	32,409	32,608	34,231	35,794	36,958	38,924	39,241	41,160	41,650	42,220
Hawaii	9,407	9,387	8,929	9,670	9,714	10,437	10,102	10,140	10,000	10,120
Idaho	14,198	14,667	15,407	15,523	15,716	16,170	15,941	16,090	15,940	15,530
Montana	10,134	10,139	10,322	10,656	10,925	10,903	10,628	10,640	10,740	10,620
Nevada	10,038	10,374	12,425	13,052	13,892	14,551	15,127	15,800	12,940	16,910
New Mexico	14,928	15,402	15,700	16,529	17,317	18,031	18,199	17,580	17,650	17,780
Oregon	26,713	26,570	27,720	27,754	28,245	30,151	29,939	31,140	31,630	31,670
Utah	27,670	26,293	30,753	31,567	31,574	32,501	31,036	30,720	30,280	29,900
Washington	49,294	49,862	51,609	53,679	55,418	57,597	55,081	57,470	58,490	58,860
Wyoming	5,889	5,892	6,381	6,427	6,348	6,462	6,071	6,160	6,000	5,790

Table 24. High school graduates in public schools, by region and state, with projections: 1994–95 to 2012–13—Continued

Region and state	Projected								
	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
United States	2,728,450	2,785,080	2,849,790	2,931,340	2,942,450	2,930,230	2,905,760	2,870,330	2,842,830
Northeast	492,170	507,220	518,340	528,490	525,620	519,850	513,200	501,800	493,100
Connecticut	34,900	36,110	36,910	37,910	37,480	37,560	37,390	36,700	36,170
Maine	12,720	12,920	12,830	12,670	12,330	12,160	11,590	11,050	10,750
Massachusetts	58,150	58,620	60,210	60,810	59,810	58,970	57,840	56,230	57,710
New Hampshire	13,100	13,150	13,250	13,360	12,920	12,880	12,250	12,110	11,700
New Jersey	88,220	92,110	95,790	97,410	98,240	98,140	98,300	96,510	96,480
New York	145,030	152,130	155,150	158,470	157,160	154,640	152,460	149,370	144,690
Pennsylvania	123,560	125,450	127,090	130,420	130,450	128,510	126,830	123,360	120,020
Rhode Island	9,680	10,010	10,250	10,690	10,680	10,690	10,460	10,560	9,940
Vermont	6,810	6,720	6,860	6,750	6,550	6,300	6,080	5,910	5,640
Midwest	675,150	681,370	698,050	716,230	715,090	707,850	699,060	682,990	670,530
Illinois	120,630	122,680	127,980	130,550	132,330	131,840	131,890	131,830	129,970
Indiana	54,880	57,510	59,170	60,410	61,250	60,510	59,950	58,850	58,860
Iowa	32,940	33,130	33,860	34,600	34,360	34,000	33,360	32,340	31,310
Kansas	29,120	29,060	28,780	29,390	28,960	28,750	28,070	27,780	27,500
Michigan	116,910	118,170	123,530	131,410	129,960	128,110	126,970	123,860	121,520
Minnesota	58,070	58,670	59,100	60,030	58,380	57,770	56,880	55,410	54,400
Missouri	54,550	54,930	55,890	56,890	57,820	58,240	56,130	53,640	52,600
Nebraska	19,510	19,260	19,330	20,000	19,550	19,280	18,900	18,350	18,190
North Dakota	7,440	7,300	7,130	6,920	6,770	6,600	6,470	6,100	5,770
Ohio	111,760	112,680	114,390	116,090	116,800	114,740	113,850	109,720	107,590
South Dakota	8,320	8,100	8,050	8,090	7,800	7,820	7,610	7,320	7,050
Wisconsin	61,020	59,880	60,840	61,850	61,110	60,190	58,980	57,790	55,770
South	919,800	935,460	957,070	977,680	991,730	994,580	987,030	978,890	972,570
Alabama	36,440	36,290	37,020	38,180	37,930	37,450	37,010	35,860	34,800
Arkansas	26,510	26,650	27,100	27,810	27,780	27,420	26,340	26,160	25,770
Delaware	6,850	7,070	6,820	7,110	7,200	7,360	7,500	7,330	7,180
District of Columbia	2,250	2,290	2,410	2,570	2,620	2,440	2,360	2,130	1,930
Florida	130,910	131,960	136,260	139,660	142,170	143,620	143,780	144,410	144,760
Georgia	68,590	70,840	73,700	76,820	76,930	76,910	77,660	76,710	76,700
Kentucky	32,660	32,480	32,960	34,160	34,420	33,720	31,260	31,220	33,330
Louisiana	34,660	37,550	35,820	34,170	35,760	36,760	35,390	34,350	33,020
Maryland	53,690	55,010	56,590	57,310	57,990	56,460	55,620	54,310	53,450
Mississippi	22,420	22,590	22,780	23,650	23,750	23,540	23,360	22,630	21,970
North Carolina	69,770	72,290	75,130	76,860	77,890	78,370	77,470	77,220	76,300
Oklahoma	35,620	35,050	35,640	36,070	36,100	36,080	34,790	34,070	33,140
South Carolina	33,230	35,110	35,890	33,690	36,290	36,650	36,150	35,220	34,770
Tennessee	43,420	44,460	46,290	47,650	48,050	47,730	46,900	45,780	45,010
Texas	231,580	235,470	238,210	244,580	248,580	252,200	254,720	255,940	256,170
Virginia	74,400	73,870	77,870	80,550	81,330	81,300	80,660	79,910	78,760
West Virginia	16,800	16,480	16,580	16,840	16,940	16,570	16,060	15,640	15,510
West	641,330	661,030	676,330	708,940	710,010	707,950	706,470	706,650	706,630
Alaska	7,230	7,360	7,380	7,600	7,580	7,550	7,050	7,050	6,760
Arizona	49,440	51,940	53,690	56,960	58,440	59,640	59,430	60,990	60,620
California	343,380	358,090	367,420	388,770	388,080	384,480	387,710	388,890	388,150
Colorado	43,920	44,110	45,090	46,450	47,280	47,970	47,470	47,500	47,930
Hawaii	10,170	10,350	10,420	10,800	10,610	10,270	10,120	9,980	9,580
Idaho	15,730	16,180	16,090	16,730	16,450	16,520	16,300	16,060	15,910
Montana	10,280	10,170	9,850	10,040	9,660	9,630	9,080	8,750	8,420
Nevada	19,190	19,130	20,490	22,430	23,100	23,880	24,240	25,000	26,050
New Mexico	17,490	17,470	17,640	17,720	17,940	17,590	17,390	16,730	16,360
Oregon	31,010	31,450	32,350	33,230	33,140	32,510	31,830	31,490	31,990
Utah	29,380	30,350	30,240	30,910	30,950	31,370	30,590	30,960	31,950
Washington	58,570	58,970	60,390	61,950	61,560	61,450	60,330	58,440	58,400
Wyoming	5,540	5,460	5,280	5,350	5,220	5,090	4,930	4,810	4,510

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; and State Public High School Graduates Model. (This table was prepared June 2003.)

Table 25. Percent change in number of public high school graduates, by region and state, with projections: 1994–95 to 2012–13

Region and state	Actual	Projected		
	1994–95 to 2000–01	2000–01 to 2007–08	2007–08 to 2012–13	2000–01 to 2012–13
United States	13.0	14.1	-3.0	10.7
Northeast	10.7	15.5	-6.7	7.7
Connecticut	14.9	24.8	-4.6	19.0
Maine	10.0	0.1	-15.2	-15.0
Massachusetts	14.1	11.8	-5.1	6.1
New Hampshire	21.2	8.7	-12.4	-4.8
New Jersey	12.9	28.0	-1.0	26.7
New York	7.2	11.7	-8.7	2.0
Pennsylvania	9.9	14.0	-8.0	4.9
Rhode Island	9.9	24.3	-7.0	15.5
Vermont	16.8	-1.5	-16.4	-17.7
Midwest	8.0	11.1	-6.4	4.0
Illinois	5.2	18.0	-0.4	17.5
Indiana	0.2	7.5	-2.6	4.8
Iowa	8.0	2.4	-9.5	-7.3
Kansas	12.4	0.1	-6.4	-6.3
Michigan	14.0	36.2	-7.5	25.9
Minnesota	14.6	6.1	-9.4	-3.9
Missouri	10.8	5.1	-7.5	-2.8
Nebraska	9.4	1.7	-9.1	-7.5
North Dakota	8.0	-18.1	-16.6	-31.7
Ohio	1.7	4.3	-7.3	-3.3
South Dakota	6.3	-8.9	-12.9	-20.6
Wisconsin	14.7	4.2	-9.8	-6.0
South	12.4	12.8	-0.5	12.3
Alabama	2.2	3.0	-8.9	-6.2
Arkansas	10.0	2.6	-7.3	-4.9
Delaware	26.4	7.5	1.0	8.6
District of Columbia	-5.6	-8.5	-24.9	-31.3
Florida	23.7	25.7	3.7	30.3
Georgia	10.3	22.9	-0.2	22.7
Kentucky	-1.8	-7.6	-2.4	-9.8
Louisiana	5.0	-10.8	-3.4	-13.8
Maryland	18.9	16.4	-6.7	8.6
Mississippi	-0.4	-0.4	-7.1	-7.5
North Carolina	6.3	21.4	-0.7	20.6
Oklahoma	12.4	-3.7	-8.1	-11.5
South Carolina	-3.1	13.3	3.2	16.9
Tennessee	-6.7	17.2	-5.5	10.7
Texas	26.4	13.6	4.7	19.0
Virginia	13.4	21.9	-2.2	19.2
West Virginia	-8.4	-8.7	-7.9	-15.9
West	21.8	18.1	-0.3	17.7
Alaska	18.2	11.6	-11.1	-0.8
Arizona	50.9	21.8	6.4	29.6
California	23.5	23.3	-0.2	23.1
Colorado	21.1	18.4	3.2	22.1
Hawaii	7.4	6.9	-11.3	-5.2
Idaho	12.3	4.9	-4.9	-0.2
Montana	4.9	-5.5	-16.1	-20.8
Nevada	50.7	48.3	16.1	72.2
New Mexico	21.9	-2.6	-7.7	-10.1
Oregon	12.1	11.0	-3.7	6.9
Utah	12.2	-0.4	3.4	2.9
Washington	11.7	12.5	-5.7	6.0
Wyoming	3.1	-11.9	-15.7	-25.7

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, and State Public High School Graduates Model. (This table was prepared June 2003.)

Table 26. Associate's degrees, by sex of recipient, with projections: 1987–88 to 2012–13

Year ending	Total	Men	Women
1988	435,085	190,047	245,038
1989	436,764	186,316	250,448
1990	455,102	191,195	263,907
1991	481,720	198,634	283,086
1992	504,231	207,481	296,750
1993	514,756	211,964	302,792
1994	530,632	215,261	315,371
1995	539,691	218,352	321,339
1996	555,216	219,514	335,702
1997	571,226	223,948	347,278
1998	558,555	217,613	340,942
1999	559,954	218,417	341,537
2000	564,933	224,721	340,212
2001	578,865	231,645	347,220
Middle alternative projections			
2002	625,000	242,000	383,000
2003	662,000	246,000	416,000
2004	660,000	243,000	417,000
2005	669,000	243,000	426,000
2006	675,000	244,000	431,000
2007	676,000	243,000	433,000
2008	681,000	244,000	437,000
2009	684,000	244,000	440,000
2010	688,000	245,000	443,000
2011	692,000	246,000	446,000
2012	696,000	247,000	449,000
2013	699,000	248,000	451,000
Low alternative projections			
2002	616,000	239,000	377,000
2003	640,000	238,000	402,000
2004	620,000	228,000	392,000
2005	632,000	230,000	402,000
2006	631,000	228,000	403,000
2007	633,000	228,000	405,000
2008	637,000	228,000	409,000
2009	641,000	229,000	412,000
2010	643,000	229,000	414,000
2011	647,000	230,000	417,000
2012	651,000	231,000	420,000
2013	654,000	232,000	422,000
High alternative projections			
2002	635,000	246,000	389,000
2003	685,000	255,000	430,000
2004	699,000	257,000	442,000
2005	708,000	257,000	451,000
2006	717,000	259,000	458,000
2007	720,000	259,000	461,000
2008	724,000	259,000	465,000
2009	728,000	260,000	468,000
2010	732,000	261,000	471,000
2011	736,000	262,000	474,000
2012	741,000	263,000	478,000
2013	744,000	264,000	480,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model. (This table was prepared July 2003.)

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Table 27. Bachelor's degrees, by sex of recipient, with projections: 1987–88 to 2012–13

Year ending	Total	Men	Women
1988	994,829	477,203	517,626
1989	1,018,755	483,346	535,409
1990	1,051,344	491,696	559,648
1991	1,094,538	504,045	590,493
1992	1,136,553	520,811	615,742
1993	1,165,178	532,881	632,297
1994	1,169,275	532,422	636,853
1995	1,160,134	526,131	634,003
1996	1,164,792	522,454	642,338
1997	1,172,879	520,515	652,364
1998	1,184,406	519,956	664,450
1999	1,200,303	518,746	681,557
2000	1,237,875	530,367	707,508
2001	1,244,171	531,840	712,331
	Middle alternative projections		
2002	1,294,000	545,000	749,000
2003	1,311,000	548,000	763,000
2004	1,333,000	559,000	774,000
2005	1,352,000	578,000	774,000
2006	1,397,000	584,000	813,000
2007	1,413,000	585,000	828,000
2008	1,425,000	589,000	836,000
2009	1,441,000	594,000	847,000
2010	1,456,000	598,000	858,000
2011	1,469,000	603,000	866,000
2012	1,488,000	610,000	878,000
2013	1,509,000	616,000	893,000
	Low alternative projections		
2002	1,281,000	539,000	742,000
2003	1,287,000	538,000	749,000
2004	1,316,000	552,000	764,000
2005	1,319,000	564,000	755,000
2006	1,384,000	579,000	805,000
2007	1,400,000	580,000	820,000
2008	1,411,000	584,000	827,000
2009	1,427,000	588,000	839,000
2010	1,442,000	592,000	850,000
2011	1,455,000	597,000	858,000
2012	1,473,000	604,000	869,000
2013	1,493,000	609,000	884,000
	High alternative projections		
2002	1,317,000	554,000	763,000
2003	1,328,000	555,000	773,000
2004	1,366,000	573,000	793,000
2005	1,366,000	584,000	782,000
2006	1,411,000	590,000	821,000
2007	1,428,000	591,000	837,000
2008	1,439,000	595,000	844,000
2009	1,456,000	600,000	856,000
2010	1,471,000	604,000	867,000
2011	1,484,000	609,000	875,000
2012	1,503,000	616,000	887,000
2013	1,509,000	616,000	893,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model. (This table was prepared July 2003.)

Table 28. Master's degrees, by sex of recipient, with projections: 1987–88 to 2012–13

Year ending	Total	Men	Women
1988	299,317	145,163	154,154
1989	310,621	149,354	161,267
1990	324,301	153,653	170,648
1991	337,168	156,482	180,686
1992	352,838	161,842	190,996
1993	369,585	169,258	200,327
1994	387,070	176,085	210,985
1995	397,629	178,598	219,031
1996	406,301	179,081	227,220
1997	419,401	180,947	238,454
1998	430,164	184,375	245,789
1999	439,986	186,148	253,838
2000	457,056	191,792	265,264
2001	468,476	194,351	274,125
Middle alternative projections			
2002	479,000	203,000	276,000
2003	492,000	210,000	282,000
2004	502,000	213,000	289,000
2005	506,000	213,000	293,000
2006	513,000	215,000	298,000
2007	519,000	217,000	302,000
2008	522,000	218,000	304,000
2009	526,000	219,000	307,000
2010	530,000	220,000	310,000
2011	536,000	222,000	314,000
2012	544,000	224,000	320,000
2013	556,000	228,000	328,000
Low alternative projections			
2002	474,000	201,000	273,000
2003	473,000	202,000	271,000
2004	488,000	207,000	281,000
2005	496,000	209,000	287,000
2006	502,000	210,000	292,000
2007	508,000	212,000	296,000
2008	511,000	213,000	298,000
2009	514,000	214,000	300,000
2010	518,000	215,000	303,000
2011	524,000	217,000	307,000
2012	533,000	220,000	313,000
2013	545,000	223,000	322,000
High alternative projections			
2002	484,000	205,000	279,000
2003	510,000	218,000	292,000
2004	516,000	219,000	297,000
2005	517,000	218,000	299,000
2006	523,000	219,000	304,000
2007	529,000	221,000	308,000
2008	533,000	222,000	311,000
2009	536,000	223,000	313,000
2010	541,000	225,000	316,000
2011	547,000	226,000	321,000
2012	556,000	229,000	327,000
2013	568,000	233,000	335,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model. (This table was prepared July 2003.)

Table 29. Doctor's degrees, by sex of recipient, with projections: 1987–88 to 2012–13

Year ending	Total	Men	Women
1988	34,870	22,615	12,255
1989	35,720	22,648	13,072
1990	38,371	24,401	13,970
1991	39,294	24,756	14,538
1992	40,659	25,557	15,102
1993	42,132	26,073	16,059
1994	43,185	26,552	16,633
1995	44,446	26,916	17,530
1996	44,652	26,841	17,811
1997	45,876	27,146	18,730
1998	46,010	26,664	19,346
1999	44,077	25,146	18,931
2000	44,808	25,028	19,780
2001	44,904	24,728	20,176
Middle alternative projections			
2002	43,200	23,200	20,000
2003	43,300	22,900	20,400
2004	44,200	23,300	20,900
2005	44,600	23,600	21,000
2006	45,000	23,700	21,300
2007	45,300	23,800	21,500
2008	45,600	24,000	21,600
2009	45,700	24,100	21,600
2010	45,900	24,200	21,700
2011	46,200	24,400	21,800
2012	46,600	24,500	22,100
2013	47,300	24,700	22,600
Low alternative projections			
2002	42,300	22,700	19,600
2003	42,100	22,200	19,900
2004	43,000	22,700	20,300
2005	43,000	22,700	20,300
2006	43,300	22,800	20,500
2007	43,600	22,900	20,700
2008	43,900	23,100	20,800
2009	44,000	23,200	20,800
2010	44,200	23,300	20,900
2011	44,500	23,500	21,000
2012	44,900	23,600	21,300
2013	45,500	23,800	21,700
High alternative projections			
2002	44,100	23,700	20,400
2003	44,500	23,500	21,000
2004	45,400	24,000	21,400
2005	46,200	24,400	21,800
2006	46,600	24,500	22,100
2007	47,000	24,700	22,300
2008	47,300	24,900	22,400
2009	47,400	25,000	22,400
2010	47,600	25,100	22,500
2011	47,900	25,300	22,600
2012	48,300	25,400	22,900
2013	49,000	25,600	23,400

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model. (This table was prepared July 2003.)

Table 30. First-professional degrees, by sex of recipient, with projections: 1987–88 to 2012–13

Year ending	Total	Men	Women
1988	70,735	45,484	25,251
1989	70,856	45,046	25,810
1990	70,988	43,961	27,027
1991	71,948	43,846	28,102
1992	74,146	45,071	29,075
1993	75,387	45,153	30,234
1994	75,418	44,707	30,711
1995	75,800	44,853	30,947
1996	76,734	44,748	31,986
1997	78,730	45,564	33,166
1998	78,598	44,911	33,687
1999	78,439	44,339	34,100
2000	80,057	44,239	35,818
2001	79,707	42,862	36,845
Middle alternative projections			
2002	80,400	42,100	38,300
2003	80,400	42,300	38,100
2004	84,400	44,300	40,100
2005	87,800	46,300	41,500
2006	89,100	47,100	42,000
2007	90,100	47,300	42,800
2008	91,300	47,800	43,500
2009	92,200	48,300	43,900
2010	92,900	48,600	44,300
2011	93,600	48,800	44,800
2012	94,600	49,200	45,400
2013	95,900	49,600	46,300
Low alternative projections			
2002	79,100	41,400	37,700
2003	79,200	41,700	37,500
2004	83,300	43,700	39,600
2005	84,500	44,600	39,900
2006	85,700	45,300	40,400
2007	86,700	45,500	41,200
2008	87,700	45,900	41,800
2009	88,700	46,400	42,300
2010	89,300	46,700	42,600
2011	90,100	47,000	43,100
2012	91,000	47,300	43,700
2013	92,400	47,800	44,600
High alternative projections			
2002	81,700	42,800	38,900
2003	81,700	43,000	38,700
2004	85,600	44,900	40,700
2005	91,100	48,100	43,000
2006	92,500	48,900	43,600
2007	93,500	49,100	44,400
2008	94,800	49,600	45,200
2009	95,700	50,100	45,600
2010	96,300	50,400	45,900
2011	97,200	50,700	46,500
2012	98,200	51,100	47,100
2013	99,600	51,500	48,100

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), various years, and Earned Degrees Conferred Model. (This table was prepared July 2003.)

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Table 31. Elementary and secondary teachers, by control of institution, with alternative projections: Fall 1988 to fall 2013

[(In thousands]

Year	Total	Public	Private
1988 [1]	2,668	2,323	345
1989 [2]	2,734	2,357	377
1990 [2]	2,753	2,398	355
1991 [2]	2,787	2,432	355
1992 [2]	2,822	2,459	363
1993 [2]	2,870	2,504	366
1994 [2]	2,926	2,552	374
1995 [3]	2,978	2,598	380
1996 [3]	3,054	2,667	387
1997 [3]	3,134	2,746	388
1998 [3]	3,221	2,830	391
1999 [3]	3,306	2,911	395
2000 [3]	3,343	2,953	390
2001 [3]	3,388	2,998	390
Middle alternative projections			
2002	3,369	2,983	385
2003	3,364	2,980	384
2004	3,367	2,983	384
2005	3,369	2,983	386
2006	3,390	3,001	389
2007	3,407	3,016	391
2008	3,446	3,051	395
2009	3,474	3,076	398
2010	3,492	3,091	401
2011	3,513	3,110	403
2012	3,540	3,133	407
2013	3,572	3,162	411
Low alternative projections			
2002	3,369	2,983	385
2003	3,358	2,975	383
2004	3,346	2,964	381
2005	3,327	2,946	381
2006	3,334	2,952	382
2007	3,331	2,949	382
2008	3,344	2,961	383
2009	3,360	2,976	385
2010	3,362	2,977	385
2011	3,370	2,983	387
2012	3,386	2,997	389
2013	3,404	3,013	391
High alternative projections			
2002	3,369	2,983	385
2003	3,361	2,978	384
2004	3,392	3,005	388
2005	3,403	3,012	391
2006	3,415	3,023	393
2007	3,457	3,060	397
2008	3,508	3,106	402
2009	3,536	3,131	405
2010	3,567	3,157	409
2011	3,598	3,185	413
2012	3,627	3,210	417
2013	3,661	3,240	421

[1] Private school numbers are estimated on the basis on past data.

[2] Private school numbers are from the Early Estimates survey.

[3] Private school numbers are projected.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Survey Early Estimates, various years, and Elementary and Secondary Teacher Model. (This table was prepared July 2003.)

Table 32. Pupil/teacher ratios in elementary and secondary schools, by control of institution, with alternative projections: Fall 1988 to fall 2013

Year	Total	Public	Private
1988 [1]	17.0	17.3	15.2
1989 [2]	16.7	17.2	13.8
1990 [2]	16.9	17.2	14.7
1991 [2]	17.0	17.3	14.9
1992 [2]	17.1	17.4	14.7
1993 [2]	17.0	17.4	14.6
1994 [2]	17.0	17.3	14.7
1995 [3]	17.0	17.3	14.9
1996 [3]	16.8	17.1	14.9
1997 [3]	16.6	16.8	15.1
1998 [3]	16.3	16.4	15.2
1999 [3]	16.0	16.1	15.2
2000 [3]	16.0	16.0	15.8
2001 [3]	15.9	15.9	15.9
Middle alternative projections			
2002	16.1	16.1	16.2
2003	16.1	16.1	16.3
2004	16.2	16.2	16.4
2005	16.2	16.2	16.3
2006	16.2	16.2	16.4
2007	16.2	16.1	16.4
2008	16.0	16.0	16.3
2009	15.9	15.9	16.2
2010	15.9	15.8	16.2
2011	15.8	15.8	16.2
2012	15.8	15.8	16.2
2013	15.8	15.7	16.1
Low alternative projections (Based on high alternative projections of teachers)			
2002	16.1	16.1	16.2
2003	16.2	16.1	16.3
2004	16.1	16.0	16.2
2005	16.0	16.0	16.1
2006	16.1	16.1	16.2
2007	15.9	15.9	16.1
2008	15.7	15.7	16.0
2009	15.6	15.6	16.0
2010	15.5	15.5	15.9
2011	15.5	15.4	15.8
2012	15.4	15.4	15.8
2013	15.4	15.4	15.7
High alternative projections (Based on low alternative projections of teachers)			
2002	16.1	16.1	16.2
2003	16.2	16.1	16.3
2004	16.3	16.3	16.5
2005	16.4	16.4	16.6
2006	16.5	16.4	16.7
2007	16.5	16.5	16.8
2008	16.5	16.4	16.8
2009	16.4	16.4	16.8
2010	16.5	16.4	16.9
2011	16.5	16.5	16.9
2012	16.5	16.5	16.9
2013	16.6	16.5	16.9

[1] Private school numbers are estimated on the basis on past data.

[2] Private school teacher numbers are from the Early Estimates survey and private school enrollment numbers are from the Private School Universe Survey.

[3] Private school numbers are projected or interpolated.

NOTE: The pupil/teacher ratios were derived from tables 2 and 31. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; "Early Estimates of Public Elementary/Secondary Education Survey," various years; Private School Survey Early Estimates, various years; and Elementary and Secondary Teacher Model. (This table was prepared July 2003.)

Table 33. Current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools, with alternative projections: 1987–88 to 2012–13

Year ending	Fall enrollment[1] (in thousands)	Current expenditures: Constant 2001–02 dollars[2] Total (in billions)	Constant 2001–02 dollars[2] Per pupil in fall enrollment	Current dollars Total (in billions)	Current dollars Per pupil in fall enrollment
1988	40,008	$241.6	$6,039	$157.1	$3,927
1989	40,188	254.6	6,335	173.1	4,307
1990	40,543	264.2	6,516	188.2	4,643
1991	41,217	268.8	6,522	202.0	4,902
1992	42,047	272.3	6,477	211.2	5,023
1993	42,823	276.3	6,451	220.9	5,160
1994	43,465	282.1	6,490	231.5	5,327
1995	44,111	288.9	6,549	243.9	5,529
1996	44,840	294.2	6,561	255.1	5,689
1997	45,611	302.9	6,642	270.2	5,923
1998	46,127	314.5	6,818	285.5	6,189
1999	46,539	327.9	7,046	302.9	6,508
2000	46,857	340.8	7,273	323.8	6,911
2001	47,223	354.3	7,503	348.2	7,373
Middle alternative projections					
2002	47,688	364.3	7,639	364.3	7,639
2003	47,918	365.1	7,619	372.7	7,777
2004	48,040	376.0	7,826	390.8	8,135
2005	48,175	385.2	7,997	408.6	8,482
2006	48,304	398.8	8,257	432.0	8,942
2007	48,524	408.3	8,415	452.7	9,329
2008	48,640	414.7	8,527	†	†
2009	48,690	422.2	8,671	†	†
2010	48,761	430.7	8,833	†	†
2011	48,890	440.3	9,006	†	†
2012	49,084	451.6	9,201	†	†
2013	49,367	464.9	9,418	†	†
Low alternative projections					
2002	47,688	364.3	7,639	364.3	7,639
2003	47,918	364.9	7,615	372.6	7,777
2004	48,040	370.5	7,713	387.5	8,066
2005	48,175	372.4	7,731	401.5	8,335
2006	48,304	378.7	7,840	422.1	8,739
2007	48,524	383.3	7,899	443.0	9,130
2008	48,640	385.6	7,929	†	†
2009	48,690	388.9	7,986	†	†
2010	48,761	394.6	8,092	†	†
2011	48,890	401.3	8,209	†	†
2012	49,084	409.9	8,351	†	†
2013	49,367	420.5	8,517	†	†
High alternative projections					
2002	47,688	364.3	7,639	364.3	7,639
2003	47,918	366.7	7,653	374.6	7,818
2004	48,040	380.4	7,919	398.0	8,285
2005	48,175	394.8	8,195	423.4	8,790
2006	48,304	412.0	8,529	452.6	9,369
2007	48,524	423.2	8,722	476.7	9,824
2008	48,640	434.1	8,925	†	†
2009	48,690	447.1	9,183	†	†
2010	48,761	460.9	9,453	†	†
2011	48,890	475.5	9,726	†	†
2012	49,084	491.0	10,004	†	†
2013	49,367	507.0	10,271	†	†

†Not applicable; projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Each enrollment number refers to the fall of the school year shown in column 1. For example, the enrollment number listed for 1988 is for fall 1987.

[2]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; National Public Education Financial Survey," various years; National Elementary and Secondary Enrollment Model; and Elementary and Secondary School Current Expenditures Model. (This table was prepared July 2003.)

Table 34. Current expenditures and current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, with alternative projections: 1987–88 to 2012–13

Year ending	ADA (in thousands)	Current expenditures: Constant 2001–02 dollars[1] Total (in billions)	Current expenditures: Constant 2001–02 dollars[1] Per pupil in ADA	Current expenditures: Current dollars Total (in billions)	Current expenditures: Current dollars Per pupil in ADA
1988	37,051	$241.6	$6,521	$157.1	$4,240
1989	37,268	254.6	6,831	173.1	4,645
1990	37,799	264.2	6,989	188.2	4,980
1991	38,427	268.8	6,996	202.0	5,258
1992	38,961	272.3	6,990	211.2	5,421
1993	39,570	276.3	6,982	220.9	5,584
1994	40,146	282.1	7,027	231.5	5,767
1995	40,721	288.9	7,095	243.9	5,989
1996	41,502	294.2	7,088	255.1	6,147
1997	42,262	302.9	7,168	270.2	6,393
1998	42,766	314.5	7,353	285.5	6,676
1999	43,187	327.9	7,593	302.9	7,013
2000	43,807	340.8	7,780	323.8	7,392
2001	44,086	354.3	8,037	348.2	7,898
Middle alternative projections					
2002	44,222	364.3	8,238	364.3	8,238
2003	44,435	365.1	8,216	372.7	8,387
2004	44,548	376.0	8,439	390.8	8,772
2005	44,674	385.2	8,623	408.6	9,147
2006	44,793	398.8	8,904	432.0	9,643
2007	44,997	408.3	9,075	452.7	10,060
2008	45,105	414.7	9,195	†	†
2009	45,151	422.2	9,351	†	†
2010	45,217	430.7	9,525	†	†
2011	45,337	440.3	9,711	†	†
2012	45,516	451.6	9,922	†	†
2013	45,779	464.9	10,156	†	†
Low alternative projections					
2002	44,222	364.3	8,238	364.3	8,238
2003	44,435	364.9	8,211	372.6	8,386
2004	44,548	370.5	8,317	387.5	8,698
2005	44,674	372.4	8,337	401.5	8,988
2006	44,793	378.7	8,455	422.1	9,424
2007	44,997	383.3	8,518	443.0	9,845
2008	45,105	385.6	8,550	†	†
2009	45,151	388.9	8,612	†	†
2010	45,217	394.6	8,726	†	†
2011	45,337	401.3	8,852	†	†
2012	45,516	409.9	9,006	†	†
2013	45,779	420.5	9,185	†	†
High alternative projections					
2002	44,222	364.3	8,238	364.3	8,238
2003	44,435	366.7	8,253	374.6	8,431
2004	44,548	380.4	8,540	398.0	8,934
2005	44,674	394.8	8,838	423.4	9,479
2006	44,793	412.0	9,197	452.6	10,103
2007	44,997	423.2	9,405	476.7	10,594
2008	45,105	434.1	9,625	†	†
2009	45,151	447.1	9,903	†	†
2010	45,217	460.9	10,194	†	†
2011	45,337	475.5	10,488	†	†
2012	45,516	491.0	10,788	†	†
2013	45,779	507.0	11,076	†	†

†Not applicable, projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years; National Public Education Financial Survey," various years; National Elementary and Secondary Average Daily Attendance Model; and Elementary and Secondary School Current Expenditures Model. (This table was prepared July 2003.

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Table 35. Estimated average annual salaries of classroom teachers in public elementary and secondary schools, with alternative projections: 1987–88 to 2012–13

Year ending	Constant 2001–02 dollars[1]	Current dollars
1988	$43,116	$28,034
1989	43,480	29,564
1990	44,024	31,367
1991	44,021	33,084
1992	43,921	34,063
1993	43,799	35,029
1994	43,541	35,737
1995	43,446	36,675
1996	43,408	37,642
1997	43,144	38,443
1998	43,347	39,351
1999	43,886	40,550
2000	43,945	41,827
2001	44,098	43,400
2002	44,683	44,683
2003	44,888	45,822
	Middle alternative projections	
2004	44,547	46,303
2005	44,752	47,471
2006	45,317	49,080
2007	45,650	50,607
2008	45,975	†
2009	46,000	†
2010	46,119	†
2011	46,422	†
2012	46,852	†
2013	47,367	†
	Low alternative projections	
2004	44,292	46,320
2005	44,161	47,614
2006	44,403	49,496
2007	44,525	51,465
2008	44,678	†
2009	44,535	†
2010	44,557	†
2011	44,760	†
2012	45,099	†
2013	45,529	†
	High alternative projections	
2004	44,755	46,823
2005	45,187	48,464
2006	45,899	50,419
2007	46,296	52,146
2008	46,809	†
2009	47,050	†
2010	47,367	†
2011	47,849	†
2012	48,420	†
2013	49,010	†

†Not applicable, projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model; and National Education Association, Estimates of School Statistics. (Latest edition 2003. Copyright 2003 by the National Education Association. All rights reserved.)
(This table was prepared July 2003.)

Table 36. Current-fund expenditures and current-fund expenditures per full-time equivalent (FTE) student of public 4-year degree-granting institutions, with alternative projections: 1987–88 to 2012–13

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 2001–02 dollars[1]		Current dollars	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1988	4,396	$92.5	$21,039	$60.1	$13,680
1989	4,506	96.1	21,330	65.3	14,503
1990	4,620	99.5	21,529	70.9	15,339
1991	4,740	102.1	21,537	76.7	16,186
1992	4,796	104.9	21,868	81.3	16,960
1993	4,798	107.6	22,429	86.1	17,938
1994	4,766	109.3	22,930	89.7	18,820
1995	4,750	112.4	23,668	94.9	19,980
1996	4,757	112.9	23,733	97.9	20,580
1997	4,767	115.6	24,244	103.1	21,621
1998	4,814	120.3	24,986	109.2	22,682
1999	4,869	124.7	25,608	115.2	23,652
2000	4,945	131.4	26,581	124.9	25,256
Middle alternative projections					
2001	5,026	137.0	27,256	134.6	26,784
2002	5,157	139.9	27,118	139.9	27,118
2003	5,402	144.0	26,656	147.0	27,211
2004	5,502	147.5	26,814	153.3	27,871
2005	5,545	151.7	27,353	160.9	29,015
2006	5,625	157.3	27,962	170.3	30,283
2007	5,706	162.4	28,459	180.0	31,550
2008	5,761	166.5	28,898	†	†
2009	5,825	170.6	29,284	†	†
2010	5,909	175.0	29,608	†	†
2011	5,979	179.3	29,984	†	†
2012	6,047	183.7	30,383	†	†
2013	6,116	188.4	30,810	†	†
Low alternative projections					
2001	5,026	137.0	27,256	134.6	26,784
2002	5,157	139.9	27,118	139.9	27,118
2003	5,493	146.7	26,712	149.9	27,280
2004	5,546	149.3	26,923	156.2	28,155
2005	5,558	151.5	27,253	163.3	29,384
2006	5,601	155.0	27,670	172.8	30,844
2007	5,643	158.3	28,050	183.0	32,422
2008	5,673	160.9	28,358	†	†
2009	5,714	163.7	28,643	†	†
2010	5,778	167.1	28,912	†	†
2011	5,836	170.3	29,187	†	†
2012	5,890	173.9	29,528	†	†
2013	5,948	177.7	29,882	†	†
High alternative projections					
2001	5,026	137.0	27,256	134.6	26,784
2002	5,157	139.9	27,118	139.9	27,118
2003	5,432	145.1	26,705	148.2	27,280
2004	5,529	148.5	26,867	155.4	28,109
2005	5,592	154.0	27,529	165.1	29,526
2006	5,689	160.0	28,119	175.7	30,888
2007	5,790	165.1	28,510	185.9	32,113
2008	5,873	169.8	28,913	†	†
2009	5,967	174.7	29,286	†	†
2010	6,079	180.2	29,644	†	†
2011	6,172	185.8	30,099	†	†
2012	6,259	191.2	30,542	†	†
2013	6,345	196.4	30,959	†	†

†Not applicable, projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; "Finance Survey" (IPEDS-F:FY), various years; Enrollment in Degree-Granting Institutions Model; and Expenditures in Degree-Granting Institutions Model. (This table was prepared July 2003.)

Table 37. Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 4-year degree-granting institutions, with alternative projections: 1987–88 to 2012–13

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 2001–02 dollars[1]		Current dollars	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1988	4,396	$72.9	$16,572	$47.4	$10,775
1989	4,506	76.4	16,950	51.9	11,525
1990	4,620	79.0	17,100	56.3	12,184
1991	4,740	80.2	16,926	60.3	12,721
1992	4,796	80.8	16,851	62.7	13,069
1993	4,798	81.5	16,986	65.2	13,585
1994	4,766	83.0	17,415	68.1	14,294
1995	4,750	85.2	17,948	72.0	15,151
1996	4,757	86.3	18,135	74.8	15,726
1997	4,767	87.6	18,370	78.1	16,383
1998	4,814	90.8	18,868	82.5	17,129
1999	4,869	94.6	19,424	87.3	17,940
2000	4,945	98.7	19,961	93.8	18,966
Middle alternative projections					
2001	5,026	102.5	20,392	100.7	20,039
2002	5,157	103.9	20,144	103.9	20,144
2003	5,402	105.7	19,569	107.9	19,976
2004	5,502	107.8	19,599	112.1	20,371
2005	5,545	110.9	19,991	117.6	21,205
2006	5,625	115.0	20,435	124.5	22,132
2007	5,706	118.6	20,778	131.4	23,035
2008	5,761	121.4	21,076	†	†
2009	5,825	124.2	21,324	†	†
2010	5,909	127.1	21,510	†	†
2011	5,979	130.0	21,746	†	†
2012	6,047	133.1	22,005	†	†
2013	6,116	136.3	22,288	†	†
Low alternative projections					
2001	5,026	102.5	20,392	100.7	20,039
2002	5,157	103.9	20,144	103.9	20,144
2003	5,493	107.8	19,625	110.1	20,042
2004	5,546	109.3	19,710	114.3	20,612
2005	5,558	110.7	19,917	119.4	21,474
2006	5,601	113.1	20,194	126.1	22,510
2007	5,643	115.3	20,439	133.3	23,624
2008	5,673	117.0	20,623	†	†
2009	5,714	118.8	20,785	†	†
2010	5,778	120.9	20,926	†	†
2011	5,836	123.0	21,074	†	†
2012	5,890	125.4	21,283	†	†
2013	5,948	127.9	21,503	†	†
High alternative projections					
2001	5,026	102.5	20,392	100.7	20,039
2002	5,157	103.9	20,144	103.9	20,144
2003	5,432	106.6	19,618	108.9	20,040
2004	5,529	108.6	19,647	113.6	20,555
2005	5,592	112.6	20,141	120.8	21,601
2006	5,689	117.0	20,560	128.5	22,585
2007	5,790	120.4	20,800	135.6	23,428
2008	5,873	123.7	21,056	†	†
2009	5,967	127.0	21,282	†	†
2010	6,079	130.6	21,489	†	†
2011	6,172	134.5	21,790	†	†
2012	6,259	138.2	22,082	†	†
2013	6,345	141.8	22,351	†	†

†Not applicable, projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; "Finance Survey" (IPEDS-F:FY), various years; Enrollment in Degree-Granting Institutions Model; and Expenditures in Degree-Granting Institutions Model. (This table was prepared July 2003.)

Table 38. Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of public 2-year degree-granting institutions, with alternative projections: 1987–88 to 2012–13

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 2001–02 dollars[1]		Current dollars	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1988	2,542	$19.2	$7,567	$12.5	$4,920
1989	2,591	20.0	7,717	13.6	5,247
1990	2,752	20.9	7,602	14.9	5,417
1991	2,818	21.6	7,668	16.2	5,763
1992	3,067	22.6	7,362	17.5	5,710
1993	3,114	23.1	7,431	18.5	5,943
1994	3,046	23.9	7,844	19.6	6,438
1995	3,035	24.4	8,029	20.6	6,778
1996	2,994	24.9	8,326	21.6	7,220
1997	3,028	25.1	8,281	22.4	7,385
1998	3,056	26.1	8,527	23.7	7,741
1999	3,011	27.5	9,126	25.4	8,429
2000	3,075	28.9	9,393	27.4	8,924
Middle alternative projections					
2001	3,241	30.9	9,533	30.4	9,368
2002	3,252	30.3	9,331	30.3	9,331
2003	3,372	30.4	9,005	31.0	9,192
2004	3,424	30.7	8,975	31.9	9,329
2005	3,448	31.8	9,221	33.7	9,781
2006	3,492	33.7	9,642	36.5	10,442
2007	3,537	35.2	9,940	39.0	11,019
2008	3,568	36.1	10,103	†	†
2009	3,604	36.9	10,231	†	†
2010	3,648	37.7	10,345	†	†
2011	3,676	38.6	10,489	†	†
2012	3,706	39.5	10,655	†	†
2013	3,739	40.6	10,849	†	†
Low alternative projections					
2001	3,241	30.9	9,533	30.4	9,368
2002	3,252	30.3	9,331	30.3	9,331
2003	3,377	30.5	9,019	31.1	9,211
2004	3,412	30.7	8,990	32.1	9,401
2005	3,428	30.8	8,975	33.2	9,677
2006	3,458	31.6	9,130	35.2	10,177
2007	3,487	32.2	9,230	37.2	10,668
2008	3,509	32.3	9,205	†	†
2009	3,535	32.4	9,176	†	†
2010	3,570	32.8	9,186	†	†
2011	3,594	33.0	9,194	†	†
2012	3,616	33.5	9,262	†	†
2013	3,643	34.1	9,347	†	†
High alternative projections					
2001	3,241	30.9	9,533	30.4	9,368
2002	3,252	30.3	9,331	30.3	9,331
2003	3,367	30.4	9,017	31.0	9,212
2004	3,426	30.9	9,031	32.4	9,448
2005	3,467	32.9	9,497	35.3	10,186
2006	3,524	35.1	9,959	38.5	10,940
2007	3,581	36.5	10,202	41.2	11,491
2008	3,630	37.8	10,404	†	†
2009	3,683	39.0	10,601	†	†
2010	3,744	40.6	10,831	†	†
2011	3,786	42.1	11,128	†	†
2012	3,825	43.6	11,394	†	†
2013	3,867	44.9	11,622	†	†

†Not applicable, projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; "Finance Survey" (IPEDS-F:FY), various years; Enrollment in Degree-Granting Institutions Model; and Expenditures in Degree-Granting Institutions Model. (This table was prepared July 2003.)

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Table 39. Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 2-year degree-granting institutions, with alternative projections: 1987–88 to 2012–13

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 2001–02 dollars[1]		Current dollars	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1988	2,542	$17.9	$7,060	$11.7	$4,590
1989	2,591	18.6	7,189	12.7	4,888
1990	2,752	19.5	7,077	13.9	5,042
1991	2,818	20.1	7,141	15.1	5,367
1992	3,067	21.0	6,839	16.3	5,304
1993	3,114	21.6	6,929	17.3	5,542
1994	3,046	22.3	7,336	18.3	6,021
1995	3,035	22.8	7,517	19.3	6,346
1996	2,994	23.4	7,807	20.3	6,770
1997	3,028	23.5	7,774	21.0	6,933
1998	3,056	24.5	8,018	22.2	7,279
1999	3,011	25.9	8,585	23.9	7,929
2000	3,075	27.1	8,822	25.8	8,382
		Middle alternative projections			
2001	3,241	29.1	8,966	28.6	8,811
2002	3,252	28.5	8,750	28.5	8,750
2003	3,372	28.4	8,435	29.0	8,611
2004	3,424	28.8	8,405	29.9	8,736
2005	3,448	29.8	8,648	31.6	9,173
2006	3,492	31.7	9,074	34.3	9,827
2007	3,537	33.2	9,375	36.8	10,393
2008	3,568	34.0	9,536	†	†
2009	3,604	34.8	9,662	†	†
2010	3,648	35.7	9,776	†	†
2011	3,676	36.5	9,917	†	†
2012	3,706	37.4	10,080	†	†
2013	3,739	38.4	10,273	†	†
		Low alternative projections			
2001	3,241	29.1	8,966	28.6	8,811
2002	3,252	28.5	8,750	28.5	8,750
2003	3,377	28.5	8,447	29.1	8,627
2004	3,412	28.7	8,414	30.0	8,799
2005	3,428	28.8	8,391	31.0	9,047
2006	3,458	29.5	8,543	32.9	9,523
2007	3,487	30.1	8,639	34.8	9,986
2008	3,509	30.2	8,607	†	†
2009	3,535	30.3	8,571	†	†
2010	3,570	30.6	8,577	†	†
2011	3,594	30.8	8,578	†	†
2012	3,616	31.2	8,640	†	†
2013	3,643	31.8	8,720	†	†
		High alternative projections			
2001	3,241	29.1	8,966	28.6	8,811
2002	3,252	28.5	8,750	28.5	8,750
2003	3,367	28.4	8,446	29.0	8,628
2004	3,426	29.0	8,461	30.3	8,852
2005	3,467	31.0	8,934	33.2	9,582
2006	3,524	33.1	9,405	36.4	10,331
2007	3,581	34.6	9,653	38.9	10,873
2008	3,630	35.8	9,858	†	†
2009	3,683	37.0	10,058	†	†
2010	3,744	38.5	10,295	†	†
2011	3,786	40.1	10,594	†	†
2012	3,825	41.5	10,862	†	†
2013	3,867	42.9	11,091	†	†

†Not applicable, projections in current dollars are not shown after 2007 due to the uncertain behavior of inflation over the long term.

[1]Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), various years; "Finance Survey" (IPEDS-F:FY), various years; Enrollment in Degree-Granting Institutions Model; and Expenditures in Degree-Granting Institutions Model. (This table was prepared July 2003.)

Technical Appendixes

Appendix A

Projection Methodology

The general procedure for *Projections of Education Statistics to 2013* was to express the variable to be projected as a percent of a "base" variable. These percents were then projected and applied to projections of the "base" variable. For example, the number of 18-year-old college students was expressed as a percent of the 18-year-old population for each year from 1972 through 2000. This enrollment rate was then projected through the year 2013 and applied to projections of the 18-year-old population from the U.S. Census Bureau.

Enrollment projections are based primarily on population projections. Projections of high school graduates and earned degrees conferred are based primarily on enrollment projections.

Exponential smoothing and multiple linear regression are the two major projection techniques used in this publication. Single exponential smoothing is used when the historical data have a basically horizontal pattern. On the other hand, double exponential smoothing is used when the time series is expected to change linearly with time. In general, exponential smoothing places more weight on recent observations than on earlier ones. The weights for observations decrease exponentially as one moves further into the past. As a result, the older data have less influence on these projections. The rate at which the weights of older observations decrease is determined by the smoothing constant selected.

$$P = \alpha X_t + \alpha(1-\alpha)X_{t-1} + \alpha(1-\alpha)^2 X_{t-2} + \alpha(1-\alpha)^3 X_{t-3} + \ldots\ldots$$

where:

P = projected value

α = smoothing constant ($0 < \alpha < 1$)

X_t = observation for time t

This equation illustrates that the projection is a weighted average based on exponentially decreasing weights. For a high smoothing constant, weights for earlier observations decrease rapidly. For a low smoothing constant, decreases are more moderate. Projections of enrollments and public high school graduates are based on a smoothing constant of $\alpha = 0.4$.

The farther apart the observations are spaced in time, the more likely it is that there are changes in the underlying social, political, and economic structure. Since the observations are on an annual basis, major shifts in the underlying process are more likely in the time span of just a few observations than if the observations were available on a monthly or weekly basis. As a result, the underlying process for annual models tends to be less stable from one observation to the next. Another reason for using high smoothing constants for some time series is that most of the observations are fairly accurate, because most observations are population values rather than sample estimates. Therefore, large shifts tend to indicate actual changes in the process rather than noise in the data.

Multiple linear regression is also used in making projections of college enrollment and earned degrees conferred. This technique is used when it is believed that a strong relationship exists between the variable being projected (the dependent variable) and independent variables. However, this technique is used only when accurate data and reliable projections of the independent variables are available.

The functional form primarily used is the multiplicative model. When used with two independent variables, this model takes the form:

$$Y = aX_1^{b_1}X_2^{b_2}$$

This equation can easily be transformed into the linear form by taking the natural log (ln) of both sides of the equation:

$$\ln Y = \ln(a) + b_1 \ln X_1 + b_2 \ln X_2$$

The multiplicative model has a number of advantages. Research has found that it is a reasonable way to represent human behavior. Constant elasticities are assumed, which means that a 1 percent change in lnX will lead to a given percent change in lnY. This percent change is equal to b_1. And the multiplicative model lends

itself easily to "a priori" analysis because the researcher does not have to worry about units of measurement when specifying relationships. In fact, the multiplicative model is considered the standard in economic analyses. For additional information, see *Forecasting: Methods and Applications* by Spiro Makridakis, Steven C. Wheelwright, and Rob J. Hyndman (John Wiley and Sons, 1998, pp. 607).

Assumptions

All projections are based on underlying assumptions, and these assumptions determine projection results to a large extent. It is important that users of projections understand the assumptions to determine the acceptability of projected time series for their purposes. Descriptions of the primary assumptions upon which the projections of time series are based are presented in table A1.

For some projections, low, middle, and high alternatives are shown. These alternatives reveal the level of uncertainty involved in making projections, and they also point out the sensitivity of projections to the assumptions on which they are based.

The key determinants of higher education enrollment are household income, which represents ability to pay, and an age-specific unemployment rate, which acts as a proxy for opportunity costs faced by students. Both of these measures are likely to decline during a weak or pessimistic economy, with the result that the estimated opportunity costs will be lower. This will have a positive impact on higher education enrollment, as students face less attractive alternatives. This will be apparent in the short term, resulting in a potential reversal in the expected pattern across the alternative economic scenarios. As a result, the high alternative projections will be lower than the low alternative projections. However, in the long term, the effect of the per capita income variable dominates the effects of the unemployment rate. This results in a pattern where the high alternative projections are greater than the low alternative projections.

Many of the projections in this publication are demographically based on U.S. Census Bureau middle series projections of the population by age. The population projections developed by the U.S. Census Bureau are based on the 2000 census and the middle series assumptions for the fertility rate, internal migration, net immigration, and mortality rate. For a discussion on the intercensal population estimates, see appendix C.

The future fertility rate assumption, which determines projections of the number of births, is one key assumption in making population projections. This assumption plays a major role in determining population projections for the age groups enrolled in nursery school, kindergarten, and elementary grades. The effects of the fertility rate assumption are more pronounced toward the end of the projection period, while the immigration assumptions affect all years.

For enrollments in secondary grades and college, the fertility assumption is of no consequence, since all the population cohorts for these enrollment ranges have already been born. For projections of enrollments in elementary schools, only middle series population projections were considered. Projections of high school graduates are based on projections of the percent of grade 12 enrollment that are high school graduates. Projections of associate's, bachelor's, master's, doctor's, and first-professional degrees are based on projections of college-age populations and college enrollment, by sex, attendance status, and level enrolled by student, and by type of institution. Projections of college enrollment are also based on disposable income per capita and unemployment rates. The projections of elementary and secondary teachers are based on education revenue receipts from state sources and enrollments. The projections of expenditures of public elementary and secondary schools and public degree-granting institutions are based on enrollments and projections of disposable income per capita and various revenue measures of state and local governments. Projections of disposable income per capita and unemployment rates were obtained from the company Global Insight, Inc. Many additional assumptions were made in projecting these variables.

Limitations of Projections

Projections of time series usually differ from the final reported data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions. Therefore, alternative projections are shown for most statistical series to denote the uncertainty involved in making projections. These alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds. The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average value of the absolute value of errors in percentage terms. For example, the mean absolute percentage errors of public school enrollment in grades K–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.1, and 2.7 percent, respectively. For more information on mean absolute percentage errors, see table A2.

Table A1. Summary of forecast assumptions to 2013

Variables	Middle alternative	Low alternative	High alternative
Demographic assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates.	Same as middle alternative	Same as middle alternative
Undergraduate enrollment	Average annual growth rate of 1.3%	Average annual growth rate of 1.1%	Average annual growth rate of 1.6%
Graduate enrollment	Average annual growth rate of 1.3%	Average annual growth rate of 1.1%	Average annual growth rate of 1.7%
First-professional enrollment	Average annual growth rate of 1.8%	Average annual growth rate of 1.5%	Average annual growth rate of 2.2%
Full-time-equivalent enrollment	Average annual growth rate of 1.5%	Average annual growth rate of 1.2%	Average annual growth rate of 1.8%
Economic assumptions			
Disposable income per capita in constant dollars	Annual percent changes range between 1.0% and 4.5% with an annual growth rate of 1.9%	Annual percent changes range between -0.2% and 2.7% with an annual growth rate of 1.0%	Annual percent changes range between 2.0% and 5.8% with an annual growth rate of 2.8%
Education revenue receipts from state sources per capita in constant dollars	Annual percent changes range between -1.4% and 5.3% with an annual growth rate of 1.9%	Annual percent changes range between -2.1% and 2.8% with an annual growth rate of 0.7%	Annual percent changes range between -1.6% and 6.4% with an annual growth rate of 2.6%
Inflation rate	Inflation rate ranges between 1.8% and 2.9%	Inflation rate ranges between 2.4% and 4.1%	Inflation rate ranges between 2.3% and 2.6%
Personal taxes and nontax receipts to state and local governments per capita in constant dollars	Annual percent changes range between 2.0% and 8.9% with an annual growth rate of 3.4%	Annual percent changes range between 0.2% and 4.5% with an annual growth rate of 1.7%	Annual percent changes range between 1.9% and 10.7% with an annual growth rate of 3.8%
Unemployment rate (men)			
Age 18 to 19	Remains between 13.3% and 18.2%	Remains between 14.5% and 17.6%	Remains between 13.1% and 17.3%
Age 20 to 24	Remains between 8.2% and 11.4%	Remains between 8.9% and 11.1%	Remains between 8.1% and 10.9%
Age 25 and over	Remains between 3.3% and 4.7%	Remains between 3.6% and 4.5%	Remains between 3.2% and 4.4%
Unemployment rate (women)			
Age 18 to 19	Remains between 11.8% and 14.9%	Remains between 12.6% and 14.5%	Remains between 11.5% and 14.3%
Age 20 to 24	Remains between 7.5% and 9.6%	Remains between 8.0% and 9.3%	Remains between 7.3% and 9.2%
Age 25 and over	Remains between 3.5% and 4.6%	Remains between 3.5% and 4.4%	Remains between 3.4% and 4.4%

SOURCE: U.S. Department of Commerce, Bureau of the Census, previously unpublished tabulation (June 2003); and Global Insight, Inc. "U.S. Quarterly Model."
(This table was prepared July 2003.)

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Table A2. Mean absolute percentage errors (MAPEs) by lead time for selected statistics in all public elementary and secondary schools and degree-granting institutions

Statistics	Lead time (years)									
	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary schools										
K-12 enrollment	0.3	0.5	0.7	0.9	1.1	1.3	1.7	1.9	2.4	2.7
K-8 enrollment	0.3	0.6	0.8	1.0	1.1	1.5	2.0	2.6	3.3	3.8
9-12 enrollment	0.6	0.8	0.9	1.2	1.3	1.7	2.1	2.4	2.6	2.8
High school graduates	0.6	1.0	1.4	1.9	1.6	1.8	2.4	3.4	3.7	4.4
Elementary and secondary teachers	1.7	2.1	2.5	2.9	2.6	3.0	3.3	4.0	4.9	5.6
Total current expenditures [1]	1.5	2.4	2.2	2.3	3.2	3.6	4.3	4.3	3.4	3.2
Current expenditures per pupil in fall enrollment [1]	1.5	2.2	2.1	2.3	3.7	4.1	4.7	5.3	5.7	5.9
Estimated average annual teacher salaries [1]	1.2	1.6	2.2	3.6	5.3	7.2	8.3	9.7	11.4	13.1
Degree-granting institutions										
Total enrollment	1.2	0.8	1.0	1.2	2.4	3.1	1.2	—	—	—
Men	1.3	1.5	2.0	2.7	3.7	4.8	3.9	—	—	—
Women	1.7	1.8	1.4	0.8	1.4	1.8	0.9	—	—	—
4-year institutions	1.1	1.4	1.3	1.9	2.6	2.8	2.4	—	—	—
2-year institutions	2.2	1.9	1.9	2.1	2.9	3.6	0.8	—	—	—
Associate's degrees	2.1	2.4	3.8	5.0	5.1	6.1	6.2	5.2	—	—
Bachelor's degrees	1.1	2.1	2.4	3.1	4.9	5.2	5.6	2.7	—	—
Master's degrees	1.2	4.3	7.1	8.4	8.7	7.1	7.7	7.1	—	—
Doctor's degrees	2.2	3.4	2.2	2.7	2.9	2.5	2.5	2.9	—	—
First-professional degrees	1.5	1.6	2.0	4.4	5.4	7.6	6.8	8.0	—	—
Current-fund expenditures in public 4-year institutions [1]	0.5	1.0	1.4	2.9	3.3	4.4	3.8	3.6	2.8	2.8
Current-fund expenditures in public 2-year institutions [1]	1.5	3.0	3.0	3.1	4.0	3.3	3.0	2.9	5.3	3.2

—Not available. Not all actual values were available to calculate a MAPE for this lead time.

[1] In constant dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Mean absolute percentage error is the average value of the absolute values of errors expressed in percentage terms. MAPEs for enrollments and high school graduates were calculated using the last 20 editions of *Projections of Education Statistics*. MAPES for teachers were calculated from the past 13 editions containing teachers projections, and MAPEs for current expenditures and teacher salaries were calculated using projections from the last 13 editions containing current expenditure and teacher salary projections. MAPEs for enrollments and earned degrees were calculated using the last 6 and 7 editions, respectively. MAPEs for current-fund expenditures were calculated using the last 8 editions of *Projections of Education Statistics* that included projections of current-fund expenditures. Calculations were made using unrounded numbers. Some data have been revised from previously published numbers.

SOURCES: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues.
(This table was prepared July 2003.)

Enrollment

National

Enrollment projections are based on projected enrollment rates, by age and sex. These enrollment rates were projected by taking into account the most recent trends, as well as the effects of economic conditions and demographic changes. The projected enrollment rates were then used in the Education Forecasting Model (EDMOD), which consists of age-specific rates by sex and by enrollment levels.

Enrollments by age and age groups from the U.S. Census Bureau were adjusted to NCES totals to compute rates for 1972 through 2000. The first stage of EDMOD is an age-specific enrollment model in which these enrollment rates are projected and applied to age-specific population projections from the U.S. Census Bureau. This stage includes all ages for students enrolled in grades K-12 and for students enrolled in postsecondary education. This stage, which is used separately for each sex, consists of the following categories: (1) nursery and kindergarten; (2) elementary grades 1–8; (3) secondary grades 9–12; (4) full-time college enrollment; and (5) part-time college enrollment.

At the postsecondary level, projections of full-time and part-time college enrollments were considered only for ages 16 and over. College enrollment is negligible for earlier ages. Full-time and part-time enrollments are modeled separately, with each model run by sex. Within an enrollment category, where applicable, college enrollment rates were projected by individual ages 16 through 24 and for the age groups 25 to 29, 30–34, and 35 years and over. Three alternative projections were made using various economic assumptions. Table A3 shows enrollment rates for 2000 and middle alternative projected enrollment rates for 2008 and 2013. Table A4 shows the equations used to project the enrollments for men by attendance status. Table A5 shows the equations used to project enrollment rates for women by attendance.

Enrollment in Public Elementary and Secondary Schools, by Grade Group and Organizational Level

The second stage of EDMOD projects public enrollment in elementary and secondary schools by grade group and by organizational level. Public enrollments by age were based on enrollment rate projections for nursery and kindergarten, grade 1, elementary ungraded and special, secondary ungraded and special, and postgraduate enrollment. Grade progression rate projections were used for grades 2 through 12. Table A6 shows the public school enrollment rates and table A7 shows the public school grade progression rates for 2001 and projections for 2008 and 2013. The projected rates in tables A6 and A7 were used to compute the projections of enrollments in elementary and secondary schools, by grade, shown in table 1.

College Enrollment, by Sex, Attendance Status, and Level Enrolled; and by Type and Control of Institution

The third stage of EDMOD projects enrollments in institutions of higher education, by age group, sex, attendance status, and level enrolled by student and by type and control of institution. These projections for 2008 and 2013 are shown in tables A8 and A9, along with actual values for 2000. For all projections, it was assumed that there was no enrollment in 2-year institutions at the postbaccalaureate level (graduate and first-professional).

The projected rates in tables A8 and A9 were then adjusted to agree with the projected age-specific enrollment rates in the first stage of EDMOD. The adjusted rates were then applied to the projected enrollments by age group, sex, and attendance status from the first stage of EDMOD to obtain projections by age group, sex, attendance status, level enrolled, and type of institution.

For each enrollment category—sex, attendance status, level enrolled, and type of institution—public enrollment was projected as a percent of total enrollment. Projections for 2008 and 2013 are shown in table A10, along with actual percents for 2000. The projected rates were then applied to the projected enrollments in each enrollment category to obtain projections by control of institution.

For each category by sex, enrollment level, and type and control of institution, graduate enrollment was projected as a percent of postbaccalaureate enrollment. Actual rates for 2000 and projections for 2008 and 2013 are shown in table A11. The projected rates in table A11 were then applied to projections of postbaccalaureate enrollment to obtain graduate and first-professional enrollment projections by sex, attendance status, and type and control of institution.

Full-Time-Equivalent Enrollment, by Type and Control of Institution and by Level Enrolled

The fourth stage of EDMOD projects full-time-equivalent enrollment, by type and control of institution and by level enrolled. For each enrollment category by level enrolled and by type and control of institution, the full-time-equivalent of part-time enrollment was projected as a percent of part-time enrollment. Actual percents for 2000 and projections for 2008 and 2013 are shown in table A12.

These projected percents were applied to projections of enrollment by level enrolled and by type and control of institution from the third stage of EDMOD. The projections were added to projections of full-time enrollment (from the previous stage) to obtain projections of full-time-equivalent enrollment.

Projection Accuracy

An analysis of projection errors from the past 20 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out for projections of public school enrollment in grades K–12 were 0.3, 0.5, 1.1, and 2.7 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.3 percent of the actual value, on the average. For projections of public school enrollment in grades K–8, the MAPEs for lead times of 1, 2, 5, and 10 years were 0.3, 0.6, 1.1, and 3.8 percent, respectively, while those for projections of public school enrollment in grades 9–12 were 0.6, 0.8, 1.3, and 2.8 percent for the same lead times.

For projections of total enrollment in degree-granting institutions, an analysis of projection errors based on the past 6 editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, and 5 years were 1.2, 0.8, and 2.4 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.2 percent of the actual value, on the average. For more information on mean absolute percentage errors, see table A2, page 79.

Basic Methodology

The notation and equations that follow describe the basic models used to project public elementary and secondary enrollment.

Public Elementary and Secondary Enrollment

Let:

i = Subscript denoting age

j = Subscript denoting grade

t = Subscript denoting time

K_t = Enrollment at the nursery and kindergarten level

G_{jt} = Enrollment in grade j

G_{1t} = Enrollment in grade 1

E_t = Enrollment in elementary special and ungraded programs

S_t = Enrollment in secondary special and ungraded programs

PG_t = Enrollment in postgraduate programs of those pupils who have graduated from the 12^{th} grade and re-enrolled for additional courses

P_{it} = Population age i

RK_t = Enrollment rate for nursery and kindergarten

RG_{1t} = Enrollment rate for grade 1

RE_t = Enrollment rate for elementary special and ungraded programs

RS_t = Enrollment rate for secondary special and ungraded programs

RPG_t = Enrollment rate for postgraduate programs

EG_t = Total enrollment in elementary grades (K-8)

SG_t = Total enrollment in secondary grades (9-12)

R_{jt} = Progression rate for grade j: the proportion that enrollment in grade j in year t is of enrollment in grade j - 1 in year t-1.

Then:

$$EG_t = K_t + E_t + \sum_{j=1}^{8} G_{jt}$$

$$SG_t = S_t + PG_t + \sum_{j=9}^{12} G_{gt}$$

where:

$$K_t = RK_t(P_{5t})$$

$$G_{jt} = R_{jt}\left(G_{j-1,t-1}\right)$$

$$E_t = RE_t\left(\sum_{j=5}^{13} P_{it}\right)$$

$$G_{1t} = RG_{it}(P_{6t})$$

$$S_t = RS_t\left(\sum_{i=14}^{17} P_{it}\right)$$

Higher Education Enrollment

For institutions of higher education, projections were computed separately by sex and attendance status of student. The notation and equations are:

Let:

i = Subscript denoting age except:
i = 25: ages 25-29

i = 26: ages 30-34

i = 27: ages 35 and over for enrollment (35-44 for population)

t = Subscript denoting year

j = Subscript denoting sex

k = Subscript denoting attendance status

E_{ijkt} = Enrollment of students age i by sex and attendance status

P_{it} = Population age i by sex

R_{ijkt} = Enrollment rate for students age i by sex and attendance status

T_{ijkt} = Total enrollment for particular subset of students: full-time men, full-time women, part-time men, part-time women

Then:

$$T_{ijkt} = \sum_{i=16}^{27} E_{ijkt}$$

where:

$$E_{ijkt} = R_{ijkt}\left(P_{ijt}\right)$$

Methodological Tables

Tables A13 and A14 give the rates used to calculate projections of enrollments and basic assumptions underlying enrollment projections.

Private School Enrollment

This edition is the third report that contains projected trends in elementary and secondary enrollment by grade level in private schools produced using the grade progression rate method.

Private school enrollment data from the National Center for Education Statistics Private School Universe Survey for 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, and 2001–02 were used to develop these projections. In addition, population estimates for 1989 to 2001 and population projections for 2002 to 2013 from the U.S. Census Bureau were used to develop the projections.

The grade progression rate method was used to project private elementary and secondary school enrollment. The grade progression rate method starts with 6-year-olds entering first grade and then follows their progress through private elementary and secondary schools. The method requires calculating the ratio of the number of children in one year who "survive" the year and enroll in the next grade the following year.

Projections of enrollment in private elementary and secondary schools were developed using primarily the grade progression rate method. Kindergarten and first grade enrollments are based on projected enrollment rates of 5- and 6-year-olds. These projected enrollment rates are applied to population projections of 5- and 6-year-olds developed by the U.S. Census Bureau.

Enrollments in grades 2 through 12 are based on projected grade progression rates. These projected rates

are then applied to the current enrollment by grade to yield grade-by-grade projections for future years. Enrollment rates of 5- and 6-year-olds and grade progression rates are projected using single exponential smoothing. Elementary ungraded and special enrollments and secondary ungraded and special enrollments are projected to remain constant at their 2001 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded and special classes were summed.

The grade progression rate method assumes that past trends in factors affecting private school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from public schools.

Mean absolute percentage errors (MAPEs) of the projection accuracy of private school enrollment were not developed because this projection method has been developed only recently and there is not yet enough historical information to evaluate model performance. As additional data becomes available, MAPEs can then be calculated.

State Level

For the 50 states and the District of Columbia, this edition contains projected trends in elementary and secondary enrollment by grade level in public schools from 2002 to the year 2013. This is the ninth report on state-level projections for public school elementary and secondary education statistics.

Public school enrollment data from the National Center for Education Statistics Common Core of Data survey for 1970 to 2001 were used to develop these projections. In addition, population estimates for 1970 to 2001 and population projections for 2002 to 2013 from the U.S. Census Bureau were used to develop the projections. This survey does not collect enrollment data for private schools.

Table A13 describes the number of years, projection methods, and smoothing constants used to project enrollments in public schools. Also included in table A13 is the procedure for choosing the different smoothing constants for the time series models.

Projections of enrollment in public elementary and secondary schools by state were developed using primarily the grade progression rate method. Kindergarten and first grade enrollments are based on projected enrollment rates of 5- and 6-year-olds. These projected enrollment rates are applied to population projections of 5- and 6-year-olds developed by the U.S. Census Bureau.

Enrollments in grades 2 through 12 are based on projected grade progression rates in each state. These projected rates are then applied to the current enrollment by grade to yield grade-by-grade projections for future years. Enrollment rates of 5- and 6-year-olds and grade progression rates are projected using single exponential smoothing. Elementary ungraded and special enrollments and secondary ungraded and special enrollments are projected to remain constant at their 2001 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded and special classes were summed.

The grade progression rate method assumes that past trends in factors affecting public school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. Therefore, this method has limitations when applied to states with unusual changes in migration rates. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from private schools.

Adjustment to National Projections

The sum of the projections of state enrollments was adjusted to equal the national projections of public school K–12, K–8, and 9–12 enrollments shown in table 1. For details on the methods used to develop the national projections for this statistic, see the section on national enrollment projections in this appendix.

Table A3. College enrollment rates, by age, sex, and attendance status, with middle alternative projections: Fall 2000, 2008, and 2013

Age, sex, and attendance status	2000	Projected	
		2008	2013
Men			
Full-time			
16 years old	0.4	0.2	0.2
17 years old	1.8	2.2	2.3
18 years old	26.2	28.5	29.4
19 years old	33.3	35.4	36.3
20 years old	29.8	32.2	33.1
21 years old	24.0	27.0	27.8
22 years old	20.9	20.7	21.4
23 years old	13.4	15.3	15.8
24 years old	9.5	10.3	10.7
25 to 29 years old	4.2	4.6	4.8
30 to 34 years old	1.9	1.9	2.0
35 to 44 years old	1.1	1.1	1.1
Part-time			
16 years old	#	0.1	0.1
17 years old	0.5	0.4	0.4
18 years old	6.9	5.3	5.3
19 years old	9.0	9.1	9.2
20 years old	7.5	6.7	6.7
21 years old	6.0	7.5	7.6
22 years old	7.4	6.1	6.2
23 years old	7.1	7.3	7.4
24 years old	9.5	7.9	8.1
25 to 29 years old	4.6	5.0	5.1
30 to 34 years old	3.2	3.3	3.4
35 to 44 years old	3.4	3.5	3.6
Women			
Full-time			
16 years old	0.5	0.4	0.4
17 years old	3.3	3.6	3.9
18 years old	40.0	40.7	42.8
19 years old	44.4	45.8	47.7
20 years old	35.8	38.8	40.8
21 years old	30.5	32.9	34.7
22 years old	20.0	22.9	24.4
23 years old	13.8	16.5	17.7
24 years old	10.8	12.5	13.5
25 to 29 years old	4.9	5.5	5.9
30 to 34 years old	2.2	2.5	2.7
35 to 44 years old	1.5	1.8	2.0
Part-time			
16 years old	#	#	#
17 years old	0.4	0.5	0.5
18 years old	4.1	4.7	4.9
19 years old	9.2	11.2	11.4
20 years old	8.3	9.2	9.4
21 years old	10.6	11.1	11.4
22 years old	7.6	9.4	9.7
23 years old	10.7	10.6	11.1
24 years old	9.8	10.1	10.6
25 to 29 years old	6.7	7.1	7.4
30 to 34 years old	5.0	5.2	5.5
35 to 44 years old	6.1	6.8	7.2

Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

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Table A4. Equations for full-time and part-time college enrollment rates of men

Independent variable	Coefficient	Standard error	T-statistic	R^2	D.W. statistic
Full-time					
Age17	-6.07	0.14	-44.9	0.99	1.5
Age18	-3.38	0.10	-34.1		
Age19	-3.24	0.10	-33.2		
Age20	-3.37	0.10	-35.4		
Age21	-3.50	0.09	-37.1		
Age22	-3.96	0.10	-38.4		
Age23	-4.39	0.09	-46.4		
Age24	-4.73	0.10	-46.4		
Age25	-5.50	0.10	-53.4		
Age25-29	-6.49	0.11	-61.1		
Age35-44	-7.13	0.11	-66.8		
LNURM	0.13	0.11	8.2		
LNCPIMA	0.40	0.02	25.3		
Rho17	0.25	0.14	1.9		
Rho18	-0.09	0.09	-1.1		
Rho19	0.23	0.10	2.3		
Rho20	0.26	0.16	1.6		
Rho21	0.14	0.15	0.9		
Rho22	0.42	0.12	3.4		
Rho23	-0.46	0.09	-5.0		
Rho24	0.47	0.12	3.8		
Rho25-29	0.59	0.12	4.9		
Rho30-34	0.62	0.14	4.5		
Rho35-44	0.53	0.09	5.6		
Part-time					
Age17	-7.98	0.86	-9.3	0.31	1.6
Age18	-3.91	0.27	-14.4		
Age19	-3.44	0.47	-7.4		
Age20	-3.58	0.28	-13.0		
Age21	-3.66	0.28	-13.3		
Age22	-3.52	0.28	-12.6		
Age23	-3.84	0.27	-14.2		
Age24	-4.01	0.37	-10.7		
Age25	-4.12	0.28	-14.8		
Age25-29	-4.57	0.29	-15.6		
Age35-44	-4.62	0.27	-17.1		
LNCPIMA	0.18	0.04	4.7		
Rho17	-0.40	0.17	-2.4		
Rho18	-0.21	0.10	-2.0		
Rho19	0.90	0.05	17.0		
Rho20	0.36	0.09	4.1		
Rho21	0.30	0.08	3.7		
Rho22	0.31	0.15	2.0		
Rho23	0.08	0.07	1.1		
Rho24	0.81	0.07	11.9		
Rho25-29	0.57	0.12	4.7		
Rho30-34	0.67	0.11	6.3		
Rho35-44	0.29	0.12	2.5		

R^2 = Coefficient of determination.
D.W. statistic = Durbin-Watson statistic.
Where:
AGE(age) = Enrollment rate by age.
Rho(age) = Autocorrelation coefficient for each age.
LNURM = Log unemployment rate for men.
LNCPIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled seeming unrelated regression with first-order autocorrelation correction. The time period used to estimate the equations is from 1978 to 2001. The number of observations is 253. For additional information, see M. D. Intriligator, *Econometric Models, Techniques, & Applications*, New Jersey: Prentice-Hall Inc., 1978, pp. 165-173.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table A5. Equations for full-time and part-time college enrollment rates of women

Independent variable	Coefficient	Standard error	T-statistic	R^2	D.W. statistic
Full-time					
Age17	-7.98	0.13	-60.3	0.97	0.4
Age18	-5.36	0.10	-56.1		
Age19	-5.32	0.09	-56.5		
Age20	-5.54	0.09	-59.8		
Age21	-5.72	0.09	-60.7		
Age22	-6.41	0.16	-40.0		
Age23	-6.88	0.10	-66.3		
Age24	-7.17	0.10	-72.2		
Age25	-8.00	0.09	-85.2		
Age25-29	-8.63	0.09	-97.7		
Age35-44	-8.84	0.09	-96.9		
LNURF	0.17	0.01	16.9		
LNCPIMA	0.75	0.01	50.7		
Rho17	0.07	0.08	0.9		
Rho18	-0.09	0.08	-1.2		
Rho19	-0.43	0.08	-5.6		
Rho20	-0.57	0.10	-5.6		
Rho21	-0.05	0.09	-0.6		
Rho22	0.77	0.07	11.4		
Rho23	0.02	0.07	0.3		
Rho24	-0.87	0.05	-16.1		
Rho25-29	-0.12	0.04	-2.9		
Rho30-34	-0.57	0.09	-6.3		
Rho35-44	-0.46	0.07	-6.2		
Part-time					
Age17	-9.31	1.42	-6.6	0.74	2.3
Age18	-5.83	0.26	-22.7		
Age19	-5.66	0.26	-21.5		
Age20	-5.54	0.25	-22.5		
Age21	5.65	0.25	-22.6		
Age22	-5.53	0.25	-22.4		
Age23	-5.83	0.25	-23.7		
Age24	-6.02	0.26	-23.5		
Age25	-5.98	0.24	-24.8		
Age25-29	-6.25	0.25	-24.8		
Age35-44	-5.99	0.24	-24.7		
LNURF	0.21	0.03	6.2		
LNCPIMA	0.57	0.04	14.5		
Rho17	0.74	0.12	6.0		
Rho18	0.48	0.14	3.5		
Rho19	0.42	0.11	3.7		
Rho20	0.06	0.11	0.6		
Rho21	0.21	0.08	2.5		
Rho22	0.22	0.14	1.5		
Rho23	-0.14	0.10	-1.4		
Rho24	0.54	0.10	5.5		
Rho25-29	0.30	0.12	2.4		
Rho30-34	0.59	0.09	6.3		
Rho35-44	0.17	0.12	1.5		

R^2 = Coefficient of determination.
D.W. statistic = Durbin-Watson statistic.
Where:
AGE(age) = Enrollment rate by age.
Rho(age) = Autocorrelation coefficient for each age.
LNURM = Log unemployment rate for men.
LNCPIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled seeming unrelated regression with first-order autocorrelation correction. The time period used to estimate the equations is from 1978 to 2001. The number of observations is 253. For additional information, see M. D. Intriligator, *Econometric Models, Techniques, & Applications*, New Jersey: Prentice-Hall Inc., 1978, pp. 165-173.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table A6. Enrollment rates in public schools, by grade level: Fall 2001, 2008, and 2013

Grade level	Population base age	2001	Projected	
			2008	2013
Kindergarten	5	105.4	—	—
Grade 1	6	92.3	—	—
Elementary ungraded and special education	5–13	1.1	—	—
Secondary ungraded and special education	14–17	1.0	—	—

—Not available.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model
(This table was prepared June 2003.)

Table A7. Public school grade progression rates: Fall 2001, 2008, and 2013

Grade	2001	Projected	
		2008	2013
1 to 2	98.2	98.5	98.5
2 to 3	100.3	100.4	100.4
3 to 4	100.1	100.3	100.3
4 to 5	100.4	100.4	100.4
5 to 6	101.3	101.5	101.5
6 to 7	101.4	101.5	101.5
7 to 8	99.2	99.5	99.5
8 to 9	112.9	113.2	113.2
9 to 10	88.8	88.9	88.9
10 to 11	89.9	90.4	90.4
11 to 12	91.9	92.3	92.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model.
(This table was prepared June 2003.)

Table A8. Full-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification: Fall 2000, 2008, and 2013

Age	Men			Women		
	2000	2008	2013	2000	2008	2013
			Undergraduate, 4-year institutions			
16 and 17 years old	67.1	55.0	53.8	68.2	60.8	59.2
18 and 19 years old	65.3	65.5	65.6	69.1	68.4	68.3
20 and 21 years old	79.9	77.1	76.8	79.4	78.0	78.0
22 to 24 years old	63.6	63.7	63.6	60.5	60.3	60.3
25 to 29 years old	43.0	44.4	44.3	40.7	45.0	45.1
30 to 34 years old	34.2	38.4	39.0	40.8	42.1	42.3
35 years and over	35.4	34.8	34.5	41.7	40.3	40.1
			Undergraduate, 2-year institutions			
16 and 17 years old	31.9	43.0	44.1	31.3	37.9	39.3
18 and 19 years old	34.5	33.6	33.4	30.7	30.9	30.9
20 and 21 years old	18.9	20.8	21.0	19.5	19.9	19.9
22 to 24 years old	16.7	16.3	16.2	17.8	17.8	17.7
25 to 29 years old	16.7	16.3	16.4	26.6	21.6	21.2
30 to 34 years old	22.0	16.2	15.7	36.4	31.9	31.2
35 years and over	26.5	31.1	32.4	34.5	32.3	32.5
			Postbaccalaureate, 4-year institutions			
16 and 17 years old	1.0	2.1	2.1	0.5	1.3	1.4
18 and 19 years old	0.2	0.9	0.9	0.2	0.8	0.8
20 and 21 years old	1.2	2.1	2.2	1.1	2.1	2.2
22 to 24 years old	19.6	20.0	20.2	21.7	22.0	21.9
25 to 29 years old	40.3	39.3	39.3	32.7	33.4	33.7
30 to 34 years old	43.8	45.4	45.3	22.9	26.0	26.5
35 years and over	38.1	34.1	33.1	23.9	27.4	27.4

NOTE: Projections shown for 2008 and 2013 were adjusted to add to 100 percent before computing projections shown in tables 10 through 21.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.
(This table was prepared June 2003.)

Table A9. Part-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification: Fall 2000, 2008, and 2013

Age	Men			Women		
	2000	2008	2013	2000	2008	2013
			Undergraduate, 4-year institutions			
16 and 17 years old	8.8	16.2	19.8	16.4	35.4	42.0
18 and 19 years old	20.5	16.4	15.7	20.6	20.3	20.1
20 and 21 years old	26.1	31.1	31.9	27.1	27.6	27.6
22 to 24 years old	32.4	31.1	31.0	30.5	31.8	31.7
25 to 29 years old	28.8	28.1	28.1	25.9	24.2	23.9
30 to 34 years old	26.9	23.8	23.0	25.9	24.5	24.1
35 years and over	24.5	21.5	21.2	24.8	22.5	22.5
			Undergraduate, 2-year institutions			
16 and 17 years old	80.6	82.7	79.8	83.5	64.2	57.7
18 and 19 years old	79.1	82.9	83.6	79.1	79.3	79.4
20 and 21 years old	73.1	68.1	67.2	72.2	71.4	71.5
22 to 24 years old	58.4	60.4	60.5	56.9	57.6	58.0
25 to 29 years old	51.2	52.8	53.0	53.7	52.5	52.6
30 to 34 years old	48.9	46.3	46.1	56.3	53.9	53.8
35 years and over	48.4	52.2	52.5	52.6	53.2	53.0
			Postbaccalaureate, 4-year institutions			
16 and 17 years old	10.6	1.1	0.5	0.1	0.4	0.4
18 and 19 years old	0.4	0.7	0.8	0.3	0.4	0.5
20 and 21 years old	0.8	0.9	0.9	0.7	1.0	0.9
22 to 24 years old	9.2	8.5	8.4	12.6	10.6	10.3
25 to 29 years old	20.0	19.1	18.9	20.4	23.3	23.5
30 to 34 years old	24.2	29.9	30.8	17.8	21.7	22.1
35 years and over	27.2	26.3	26.3	22.6	24.2	24.4

NOTE: Projections shown for 2008 and 2013 were adjusted to add to 100 percent before computing projections shown in tables 10 through 21.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table A10. Public college enrollment as a percent of total enrollment, by attendance status, sex, level enrolled, and type of institution: Fall 2000, 2008, and 2013

Enrollment category	Men			Women		
	2000	2008	2013	2000	2008	2013
Full-time, undergraduate, 4-year institutions	69.3	67.7	67.6	68.2	66.7	66.6
Part-time, undergraduate, 4-year institutions	72.4	71.4	71.4	68.7	68.2	68.2
Full-time, undergraduate, 2-year institutions	92.0	90.2	90.0	91.1	90.7	90.7
Part-time, undergraduate, 2-year institutions	97.8	98.9	98.9	98.1	98.7	98.8
Full-time, postbaccalaureate, 4-year institutions	55.3	53.2	53.0	58.1	54.9	54.6
Part-time, postbaccalaureate, 4-year institutions	58.3	57.1	57.0	64.9	62.6	62.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table A11. Graduate enrollment as a percent of total postbaccalaureate enrollment, by sex, attendance status, and type and control of institution: Fall 2000, 2008, and 2013

Enrollment category	Men			Women		
	2000	2008	2013	2000	2008	2013
Full-time, 4-year, public	77.3	77.7	77.8	81.2	81.1	81.0
Part-time, 4-year, public	98.9	98.8	98.8	99.4	99.3	99.3
Full-time, 4-year, private	58.6	63.3	63.7	67.7	71.9	72.2
Part-time, 4-year, private	91.4	91.4	91.4	95.4	95.4	95.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table A12. Full-time-equivalent of part-time enrollment as a percent of part-time enrollment, by level enrolled and by type and control of institution: Fall 2000, 2008, and 2013

Enrollment category	2000	2008	2013
Public, 4-year, undergraduate	40.3	40.4	40.4
Public, 2-year, undergraduate	33.6	33.6	33.6
Private, 4-year, undergraduate	39.5	39.3	39.3
Private, 2-year, undergraduate	39.8	39.7	39.7
Public, 4-year, graduate	36.2	36.2	36.2
Private, 4-year, graduate	38.2	38.2	38.2
Public, 4-year, first-professional	59.7	60.1	60.1
Private, 4-year, first-professional	54.5	54.6	54.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

Table A13. Number of years, projection methods, and smoothing constants used to project public school enrollments and high school graduates, by state

Projected state variable	Number of years (1970–2001)	Projection method	Smoothing constant	Basis for smoothing constant
Grade progression rates	32	Single exponential smoothing	0.4	Empirical research
Graduates/grade 12 enrollment	32	Single exponential smoothing	0.4	Empirical research

SOURCE: U.S. Department of Education, National Center for Education Statistics, State Public Elementary and Secondary Enrollment Model, and State Public High School Graduates Model. (This table was prepared June 2003.)

Table A14. Enrollment (assumptions)

Variables	Assumptions	Alternatives	Tables
Elementary and secondary enrollment	Age-specific enrollment rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1-9
	Public enrollment rates and public grade retention rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1-9
	The percentage of 7th and 8th grade public students enrolled in school organized as secondary schools will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1-9
College enrollment, by age			
Full-time men, full-time women, and part-time women	Age-specific enrollment rates are a function of dummy variables by age, middle alternative log of four-period weighted average of real disposable income per capita, and middle alternative log unemployment rate by age group.	Middle	10-19
	Age-specific enrollment rates are a function of dummy variables by age, low alternative log of four-period weighted average of real disposable income per capita, and low alternative log unemployment rate by age group.	Low	10-19
	Age-specific enrollment rates are a function of dummy variables by age, high alternative log of four-period weighted average of real disposable income per capita, and high alternative log unemployment rate by age group.	High	10-19
Part-time men	Age-specific enrollment rates for men are a function of dummy variables by age and the middle alternative log of four-period weighted average of real disposable income per capita.	Middle	10-19
	Age-specific enrollment rates for men are a function of dummy variables by age and the low alternative log of four-period weighted average of real disposable income per capita.	Low	10-19
	Age-specific enrollment rates for men are a function of dummy variables by age and the high alternative log of four-period weighted average of real disposable income per capita.	High	10-19
College enrollment, by sex, attendance status, level enrolled, and type of institution	For each group and for each attendance status separately, percent of total enrollment by sex, level enrolled, and type of institution will follow past trends through 2013. For each age group and attendance status category, the sum of the percentages must equal 100 percent.	High, middle, and low	10-19
College enrollment, by control of institution	For each enrollment category, by sex, attendance status, and level enrolled, and by type of institution, public enrollment as a percent of total enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	10-19
Graduate enrollment	For each enrollment category, by sex and attendance status of student, and by type and control of institution, graduate enrollment as a percent of postbaccalaureate enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	20
Full-time-equivalent of part-time enrollment	For each enrollment category, by type and control of institution and level enrolled, the percent that full-time-equivalent of part-time enrollment is of part-time enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	22

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, State Public Elementary and Secondary Enrollment Model, and Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2003.)

High School Graduates

National

Projections of public high school graduates were developed in the following manner. The number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1972 to 2001. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. (This percent does not make any specific assumptions regarding the dropout rate. The effect of the 12th grade dropout proportion is reflected implicitly in the graduate proportion.) The grade 12 enrollment was projected based on grade progression rates. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting graduation ratios, such as dropouts, migration, and public or private transfers, will continue over the projection period. In addition to student behaviors, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

The number of private high school graduates was expressed as a percent of grade 12 enrollment in private schools for 1989 to 2001. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in private schools. (This percent does not make any specific assumptions regarding the dropout rate. The effect of the 12th grade dropout proportion is reflected implicitly in the graduate proportion.) The grade 12 enrollment was projected based on grade progression rates. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting graduation ratios, such as dropouts, migration, and public or private transfers, will continue over the projection period. In addition to student behaviors, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

Projection Accuracy

An analysis of projections from models used in the past 20 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of public high school graduates were 0.6 percent for 1 year ahead, 1.0 percent for 2 years ahead, 1.6 percent for 5 years ahead, and 4.4 percent for 10 years ahead. For the 1-year-ahead prediction, this means that one would expect the projection to be within 0.6 percent of the actual value, on the average. For more information on the mean absolute percentage errors, see table A2, page 79.

State Level

This edition contains projections of high school graduates from public schools by state from 2002–03 to 2012–13. Public school graduate data from the National Center for Education Statistics' Common Core of Data survey for 1969–70 to 2001–02 were used to develop these projections. This survey does not collect graduate data for private schools.

Projections of public high school graduates by state were developed in the following manner. For each state, the number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1970 to 2001. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. Projections of grade 12 enrollment were developed based on the grade progression rates discussed in appendix A, Enrollment. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting public high school graduates will continue over the projection period.

Earned Degrees Conferred

Projections of associate's, bachelor's, master's, doctor's, and first-professional degrees by sex were based on demographic models that relate degree awards to college-age populations and college enrollment by level enrolled and attendance status.

Associate's Degrees

Associate's degree projections by sex were based on undergraduate enrollment by attendance status in 2-year institutions. Results of the regression analysis used to project associate's degrees by sex are shown in table A15.

Bachelor's Degrees

Bachelor's degree projections by sex were based on the 18- to 24-year-old population and undergraduate enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project bachelor's degrees by sex are shown in table A15.

Master's Degrees

Master's degree projections by sex were based on full-time graduate enrollment by sex. Results of the regression analysis used to project master's degrees by sex are shown in table A15.

Doctor's Degrees

Doctor's degree projections for men were based on full-time male graduate enrollment and the unemployment rate. Doctor's degree projections for women were based on the 35- to 44-year-old population of women and full-time female graduate enrollment. The results of the regression analysis used to project doctor's degrees by sex are shown in table A15.

First-Professional Degrees

First-professional degree projections by sex were based on first-professional enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project first-professional degrees by sex are shown in table A15.

Methodological Tables

These tables describe equations used to calculate projections (table A15), and basic assumptions underlying projections (table A16).

Projection Accuracy

An analysis of projection errors from similar models used in the past seven editions of *Projections of Education Statistics* indicates that mean absolute percentage errors (MAPEs) for associate's degrees were 2.1 percent for 1 year out, 2.4 percent for 2 years out, and 5.1 percent for 5 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 2.1 percent of the actual value, on average. MAPEs for bachelor's degree projections were 1.1 percent for 1 year out, 2.1 percent for 2 years out, and 4.9 percent for 5 years out. MAPEs for master's degrees were 1.2, 4.3, and 8.7, respectively. For doctor's degrees, the MAPEs were 2.2, 3.4, and 2.9 percent, respectively. For first-professional degrees, the MAPEs were 1.5, 1.6, and 5.4 percent, respectively. For more information on the mean absolute percentage errors, see table A2.

Table A15. Equations for earned degrees conferred

Dependent Variable	Equation	R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Rho	Time period
Associate's degrees Men	ASSOCM = 106,844 + 56.6UGFT2M (1.5) + 39.2UGPT2M (2.2)	0.83	1.6	AR1	0.73 (4.6)	1970–71 to 2000–01
Associate's degrees Women	ASSOCW = 93,045 + 180.6UGFT2W (5.9)	0.99	1.4	AR1	0.98 (47.5)	1970–71 to 2000–01
Bachelor's degrees Men	BACHM = 218,515 - 10.4P1824M (-3.3) + 180.6UGFT4M (6.4)	0.89	1.7	AR1	0.64 (4.2)	1970–71 to 2000–01
Bachelor's degrees Women	BACHW = 190,194 - 15.7P1824W (-2.9) + 246.8UGFT4W (17.4)	0.99	1.2	AR1	0.81 (6.8)	1970–71 to 2000–01
Master's degrees Men	MASTM = 35,513 + 405.9GFTM (5.4)	0.95	1.3	AR1	0.90 (12.3)	1970–71 to 2000–01
Master's degrees Women	MASTW = 36,718 + 544.3GFTW (15.3)	0.99	1.1	AR1	0.92 (14.6)	1972–73 to 2000–01
Doctor's degrees Men	DOCM = 19,749 + 19.3GFTM1 (1.1) - 12.8RUC (-0.9)	0.89	1.1	AR1	0.96 (21.6)	1970–71 to 2000–01
Doctor's degrees Women	DOCW = - 1,582 + 0.4P3544W (2.6) + 31.2GFTW (5.4)	0.99	2.2	AR1	0.72 (3.9)	1972–73 to 2000–01
First-professional degrees Men	FPROM = 10,292 + 228.7PFTM (7.0)	0.88	1.9	AR1	0.51 (2.6)	1970–71 to 2000–01
First-professional degrees Women	FPROW = - 1,156 + 284.2FPFTW (24.0) + 227.1FPPTW (2.2)	0.99	1.5	OLS	†	1971–72 to 2000–01

†Not applicable.

[1]For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2]AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. OLS indicates Ordinary Least Squares. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315–318.

Where:
ASSOCM = Number of associate's degrees awarded to men
ASSOCW = Number of associate's degrees awarded to women
BACHM = Number of bachelor's degress awarded to men
BACHW = Number of bachelor's degress awarded to women
MASTM = Number of master's degrees awarded to men
MASTW = Number of master's degrees awarded to women
DOCM = Number of doctor's degress awarded to men
DOCW = Number of doctor's degress awarded to women
FPROM = Number of first-professional degrees awarded to mer
FPROW = Number of first-professional degrees awarded to women
UGFT2M = Full-time male undergraduate enrollment in 2-year institutions, lagged 2 years, in thousands
UGPT2M = Part-time male undergraduate enrollment in 2-year institutions, lagged 2 years, in thousands
UGFT2W = Full-time female undergraduate enrollment in 2-year institutions, lagged 2 years, in thousands
P1824M = Population of 18- to 24-year-old men, in thousands
P1824W = Population of 18- to 24-year-old women, in thousands
UGFT4M = Full-time male undergraduate enrollment in 4-year institutions, lagged 2 years, in thousands
UGFT4W = Full-time female undergraduate enrollment in 4-year institutions, lagged 3 years, in thousands
GFTM = Full-time male graduate enrollment, in thousand
GFTW = Full-time female graduate enrollment, in thousand
P3544W = Population of 35- to 44-year-old women, in thousands
GFTM1 = Full-time male graduate enrollment lagged 1 year, in thousand
GFTW = Full-time female graduate enrollment, in thousand
RUC = Unemployment rate
FPFTM = Full-time male first-professional enrollment lagged 2 years, in thousands
FPFTW = Full-time female first-professional enrollment lagged 1 year, in thousands
FPPTW = Part-time female first-professional enrollment lagged 2 years, in thousands

NOTE: R^2 indicates the coefficient of determination. Rho measures the correlation between errors in time period t and time period t minus 1. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Earned Degrees Conferred Model.
(This table was prepared July 2003.)

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Table A16. Earned degrees conferred (assumptions)

Variables	Assumptions	Alternative	Table
Associate's degrees			
Men	The number of associate's degrees awarded to men is a linear function of full- and part-time male undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2012-13.	Middle	26
Women	The number of associate's degrees awarded to women is a linear function of full-time female undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2012-13.	Middle	26
Bachelor's degrees			
Men	The number of bachelor's degrees awarded to men is a linear function of full-time male undergraduate enrollment in 4-year institutions lagged 2 years and the male 18- to 24-year-old population. This relationship will continue through 2012-13.	Middle	27
Women	The number of bachelor's degrees awarded to women is a linear function of full-time female undergraduate enrollment in 4-year institutions lagged 3 years and the female 18- to 24-year-old population. This relationship will continue through 2012-13.	Middle	27
Master's degrees			
Men	The number of master's degrees awarded to men is a linear function of full-time male graduate enrollment. This relationship will continue through 2012-13.	Middle	28
Women	The number of master's degrees awarded to women is a linear function of full-time female graduate enrollment. This relationship will continue through 2012-13.	Middle	28
Doctor's degrees			
Men	The number of doctor's degrees awarded to men is a linear function of full-time male graduate enrollment lagged one year and the unemployment rate. This relationship will continue through 2012-13.	Middle	29
Women	The number of doctor's degrees awarded to women is a linear function of the 35- to 44-year-old population and full-time female graduate enrollment. This relationship will continue through 2012-13.	Middle	29
First-professional degrees			
Men	The number of first-professional degrees awarded to men is a linear function of full-time male first-professional enrollment lagged 2 years. This relationship will continue through 2012-13.	Middle	30
Women	The number of first-professional degrees awarded to women is a linear function of full-time female first-professional enrollment lagged 1 year and part-time female first-professional enrollment lagged 2 years. This relationship will continue through 2012-13.	Middle	30

SOURCE: U.S. Department of Education, National Center for Education Statistics, Earned Degrees Conferred Model.
(This table was prepared July 2003.)

Elementary and Secondary Teachers

Public Elementary and Secondary Teachers

The number of public elementary and secondary teachers was projected separately for the elementary and secondary levels. The elementary teachers were modeled as a function of local education revenue receipts from state sources per capita and elementary enrollment. Secondary teachers were modeled as a function of local education revenue receipts from state sources per capita (lagged 3 years) and secondary enrollment. Local education revenue receipts from state sources were in constant 1982–84 dollars.

The equations in this section should be viewed as forecasting rather than structural equations, as the limitations of time and available data precluded the building of a large-scale, structural teacher model. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the coefficients, the Durbin-Watson statistic, and residual plots.

The multiple regression technique will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

The public elementary teacher model is:

$$ELTCH = b_0 + b_1SGRANT + b_2ELENR$$

where:

ELTCH is the number of public elementary teachers.

SGRANT is the level of education revenue receipts from state sources per capita in constant 1982–84 dollars; and

ELENR is the number of students enrolled in public elementary schools.

Each variable affects the number of teachers in the expected way. As the state spends more money on education and as enrollment increases, the number of elementary teachers hired increases.

The public secondary teacher model is:

$$SCTCH = b_0 + b_1SGRANT3 + b_2SCENR$$

where:

SCTCH is the number of public secondary teachers;

SGRANT3 is the level of education revenue receipts from state sources per capita in constant 1982–84 dollars, lagged 3 years; and

SCENR is the number of students enrolled in public secondary schools.

Each variable affects the number of teachers in the expected way. As the state spends more money on education and as enrollment increases, the number of secondary teachers hired increases.

Table A17 summarizes the results for the elementary and secondary public teacher models.

Enrollment is by organizational level, not by grade level. Thus, secondary enrollment is not the same as grade 9–12 enrollment because some states count some grade 7 and 8 enrollment as secondary. Therefore, the distribution of the number of teachers is also by organizational level, not by grade span.

Private Elementary and Secondary Teachers

Projections of private elementary and secondary teachers were derived in the following manner. For 1960 to 2000, the ratio of private school teachers to public school teachers was calculated by organizational level. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant value was then applied to projections of public school teachers by organizational level to yield projections of private school teachers. This method assumes that the future pattern in the trend of private school teachers will be the same as that for public school teachers. The reader is cautioned that a number of factors could alter the assumption of constant ratios over the projection period.

The total number of public school teachers, enrollment by organizational level, and education revenue receipts from state sources used in these projections were from the Common Core of Data (CCD) survey conducted by NCES. The proportion of public school teachers by organizational level was taken from the National Education Association and then applied to the total number of teachers from CCD to produce the number of teachers by organizational level.

Projection Accuracy

An analysis of projection errors from the past 13 editions of *Projections of Education Statistics* indicated that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 1.7 percent for 1 year out, 2.1 percent for 2 years out, 2.6 percent for 5 years out, and 5.6 percent for 10 years out. For the 2-year-ahead prediction, this means that one would expect the projection to be within 2.1 percent of the actual value, on average. For more information on the mean absolute percentage errors, see table A2.

Table A17. Equations for public elementary and secondary teachers

Dependent Variable			Equation			R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Rho	Time period
Elementary	ELTCH	=	91.8	+ 1.8SGRANT (6.8)	+ 0.03ELENR (3.7)	0.99	1.7	AR1	0.99 (56.6)	1960 to 2001
Secondary	SCTCH	=	75.7	+ 1.5SGRANT3 (14.7)	+ 0.03SCENR (7.6)	0.97	1.7	AR1	0.66 (5.0)	1965 to 2001

[1]For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251-252.

[2]AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

Where:
ELTCH = Number of public Elementary classroom teachers, in thousands
SCTCH = Number of public secondary classroom teachers, in thousands
SGRANT = Education revenue receipts from state sources per capita
SGRANT3 = Education revenue receipts from state sources per capita lagged 3 years
ELENR = Number of students enrolled in public elementary schools, in thousands
SCENR = Number of students enrolled in public secondary schools, in thousands

NOTE: R^2 indicates the coefficient of determination. Rho measures the correlation between errors in time period t and time period t minus 1. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Model.
(This table was prepared July 2003.)

Expenditures of Public Elementary and Secondary Schools

Econometric techniques were used to produce the projections for current expenditures and average teacher salaries. The equations in this chapter should be viewed as forecasting equations rather than structural equations. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

Elementary and Secondary School Current Expenditure Model

There is a large body of work, both theoretical and empirical, on the demand for local public services such as education.[1] The elementary and secondary school current expenditure model is based on this work.

The model that is the basis for the elementary and secondary school current expenditure model has been called the median voter model. In brief, the theory states that spending for each public good in the community (in this case, spending for education) reflects the preferences of the "median voter" in the community. This individual is identified as the voter in the community with the median income and median property value. Hence, the amount of spending in the community reflects the price of education facing the voter with the median income, as well as his income and tastes. There are competing models in which the level of spending reflects the choices of others in the community, such as the "bureaucrats." The median voter model was chosen as the basis of the elementary and secondary school current expenditure model as it has been the one most thoroughly studied.

There have been many empirical studies of the demand for education expenditures using the median voter model. In most instances, researchers have used cross-sectional data. The elementary and secondary school current expenditure model was built on the knowledge gained from these cross-sectional studies and was adapted from them for use in a time series study.

In a median voter model, the demand for education expenditures is typically linked to four different types of variables: (1) measures of the income of the median voter; (2) measures of intergovernmental aid for education going indirectly to the median voter; (3) measures of the price to the median voter of providing one more dollar of education expenditures per pupil; and (4) any other variables that may affect one's tastes for education. The elementary and secondary school current expenditure model contains variables reflecting the first three types of variables. The model is:

$$\ln(\text{CUREXP}) = b_0 + b_1\ln(\text{PCI}) + b_2\ln(\text{SGRNT}) + b_3\ln(\text{ENRPOP})$$

where:

ln indicates the natural log;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars;

PCI equals disposable income per capita in constant 1996 dollars;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant year 1982–84 dollars; and

ENRPOP equals the ratio of fall enrollment to the population.

The model was estimated using the AR1 model for correcting for autocorrelation. This is the 10th edition of *Projections of Education Statistics* in which this method of estimation, rather than OLS, was used. Ordinary least squares had been used in the prior four editions of *Projections of Education Statistics*. The model was estimated using the period from 1967–68 to 2000–01.

There are potential problems with using a model for local government education expenditures for the nation as a whole. Two such problems concern the variable SGRNT. First, the amount of money which local governments receive for education from state governments varies substantially by state. Second, the formulas used to apportion state moneys for education among local governments vary by state.

Beginning in 1988–89, there was a major change in the survey form used to collect data on current

[1] For a review and discussion of this literature, see Inman, R. P. (1979), "The Fiscal Performance of Local Governments: An Interpretive Review," in *Current Issues in Urban Economics*, edited by P. Mieszkowski and M. Straszheim, Johns Hopkins Press, Baltimore, Maryland.

expenditures. This new survey form produces a more complete measure of current expenditures; therefore, the values for current expenditures are not completely comparable to the previously collected numbers. In a crosswalk study, data for a majority of states were also collected for 1986–87 and 1987–88 that were comparable to data from the new survey form. A comparison of these data with those from the old survey form suggests that the use of the new survey form may have increased the national figure for current expenditures by approximately 1.4 percent over what it would have been if the survey form had not been changed. When the model was estimated, all values for current expenditures before 1988–89 were increased by 1.4 percent.

The results for the model are shown in table A18. Each variable affects current expenditures in the direction that would be expected. With high levels of income (PCI) or revenue receipts from state source (SGRNT), the level of spending increases. As the number of pupils increases relative to the population (that is, as ENRPOP increases), the level of spending per pupil falls.

From the cross-sectional studies of the demand for education expenditures, we have an estimate of how sensitive current expenditures are to changes in PCI and ENRPOP. We can compare the results from this model with those from the cross-sectional studies. For this model, an increase in PCI of 1 percent, with SGRNT and ENRPOP held constant, would result in an increase of current expenditures per pupil in fall enrollment of approximately .64 percent. With PCI and SGRNT held constant, an increase of 1 percent in ENRPOP would result in a decrease in current expenditures per pupil in fall enrollment of approximately .36 percent. Both numbers are well within the range of what has been found in cross-sectional studies.

The results from this model are not completely comparable with those from the previous editions of *Projections of Education Statistics*, with the exception of *Projections of Education Statistics to 2011*.[2] First, in those earlier editions, average daily attendance, rather than fall enrollment, was used as the measure of enrollment in current expenditure per pupil and the ratio of enrollment to population variables. This change was made because the definitions of fall enrollment are more consistent from state to state than those of average daily attendance. Second, in those earlier editions, the sample period used to estimate the model began with 1959–60 rather than 1967–68. This change was made due to superior model diagnostics.

There have been other changes to the model used in earlier editions. As with the previous three editions with current expenditure projections, the population number for each school year is the U.S. Census Bureau's July 1 population number for the upcoming school year. In earlier editions, the school year population number were from an economic consulting firm. These changes were made to be consistent with population projections used in producing other projections of education statistics. Also, there have been changes in the definition of the disposable income.

Projections for total current expenditures were made by multiplying the projections for current expenditures per pupil in fall enrollment by projections for fall enrollment. The projections for total current expenditures were also divided by projections for average daily attendance to produce projections of current expenditures per pupil in average daily attendance to provide projections that are consistent with those from earlier years. Projections were developed in 1982–84 dollars and then placed in 2001–02 dollars using the Consumer Price Index. Current-dollar projections were produced by multiplying the constant-dollar projections by projections for the Consumer Price Index. The Consumer Price Index and the other economic variables used in calculating the projections presented in this report were placed in school year terms rather than calendar year terms.

Three alternative sets of projections for current expenditures are presented: the middle alternative projections, the low alternative projections, and the high alternative projections. The alternative sets of projections differ because of varying assumptions about the growth paths for disposable income and revenue receipts from state sources.

The alternative sets of projections for the economic variables, including disposable income, were developed using three economic scenarios prepared by the economic consulting firm Global Insight, Inc.

Global Insight's February 2003 trend scenario was used as a base for the middle alternative projections of the economic variables. Global Insight's trend scenario depicts a mean of possible paths that the economy could take over the forecast period, barring major shocks. The economy, in this scenario, evolves smoothly, without major fluctuations.

Global Insight's February 2003 pessimistic scenario was used for the low alternative projections and Global Insight's February 2003 optimistic scenario was used for the high alternative projections.

In the middle alternative projections, disposable income per capita rises each year from 2003–04 to 2012–13 at rates between 1.0 percent and 4.5 percent. In the low alternative projections, disposable income per capita ranges between –0.2 percent and 2.7 percent, and in the high alternative projections, disposable income per capita rises at rates between 2.0 percent and 5.8 percent.

[2] There were no projections of either current expenditures or teachers salaries in *Projections of Education Statistics to 2012*.

The alternative projections for revenue receipts from state sources were produced using the following model:

$$\ln(SGRNT) = b_0 + b_1\ln(PERTAX1) + b_2\ln(ENRPOP) + b_3\ln(RCPIANN/RCPIANN1)$$

where:

ln indicates the natural log;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars;

PERTAX1 equals personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period;

ENRPOP equals the ratio of fall enrollment to the population;

RCPIANN equals the inflation rate measured by the Consumer Price Index; and

RCPIANN1 equals the inflation rate measured by the Consumer Price Index lagged 1 period.

This equation was estimated using the AR1 model for correcting for autocorrelation. The model was estimated using the period from 1967–68 to 2000–01. These models are shown in table A18.

The values of the coefficients in this model follow expectations. As state governments receive more revenue (higher PERTAX1), they have more money to send to local governments for education. As the enrollment increases relative to the population (higher ENRPOP), so does the amount of aid going to education. Finally, the real dollar values of revenue receipts from state governments to local governments would fall, other things being equal, in years with rapidly increasing inflation (higher RCPIANN/RCPIANN1).

The model used in *Projections of Education Statistics to 2011*, was identical to the model used for this edition. The models used for the five editions of *Projections of Education Statistics* before that were identical to that used in this edition except that average daily attendance was used rather than fall enrollment, as the measure of enrollment and the sample period used to produce the forecast began in 1959–60 rather than 1967–68. As with the current expenditures model, the change to fall enrollment was done because the definition of fall enrollment is more consistent across states and the change in sample period was done because of superior model diagnostics. The model used in *Projections of Education Statistics to 2006* was similar to the model used in those more recent editions except that it contained a second measure of state and local government revenue. In earlier editions, similar models were used except the variables were not in log form. Both of these changes were made because of superior model diagnostics.

Three alternative sets of projections for SGRNT were produced using this model. Each is based on a different set of projections for personal taxes and the rate of change in the inflation rate. The middle set of projections was produced using the values from the middle set of alternative projections. The low set of projections was produced using the values from the low set of alternative projections, and the high set of projections was produced using the values from the high set of alternative projections. In the middle set of projections, personal taxes and nontax receipts increase at rates between 2.0 percent and 8.9 percent. In the low set of projections, personal taxes and nontax receipts increase at rates between 0.2 percent and 4.5 percent. In the high set of projections, personal taxes and nontax receipts increase at rates between 1.9 percent and 10.7 percent.

In the middle set of projections, revenue receipts from state sources increase at rates between –1.4 percent and 5.3 percent for the period from 2003–04 to 2012–13. In the low set of projections, they increase at rates between –2.1 percent and 2.8 percent. In the high set of projections, they increase at rates between –1.6 percent and 6.4 percent.

Elementary and Secondary Teacher Salary Model

Most studies conducted on teacher salaries, like those on current expenditures, have used cross-sectional data. Unlike current expenditures models, however, the models for teacher salaries from these existing cross-sectional studies cannot easily be reformulated for use with time series data. One problem is that we do not have sufficient information concerning the supply of qualified teachers who are not presently teaching. Instead, the elementary and secondary salary model contains terms that measure the demand for teachers in the economy.

The elementary and secondary teacher salary model is:

$$\ln(SALRY) = b_0 + b_1\ln(CUREXP) + b_2\ln(ENRPOP) + b_3\ln(ENR1/ENR2)$$

where:

ln indicates the natural log;

SALRY equals the estimated average annual salary of

teachers in public elementary and secondary schools in constant 1982–84 dollars;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars;

ENRPOP equals the ratio of fall enrollment to the population;

ENR1 equals fall enrollment lagged 1 period; and

ENR2 equals fall enrollment lagged 2 periods.

The model was estimated using the period from 1969–70 to 2000–01. The AR1 model for correcting for autocorrelation was used since the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS.

Due to the effects on current expenditures caused by the change in survey forms discussed above, the values for current expenditures for 1969–70 to 1987–88 were increased by 1.4 percent when the salary model was estimated. The coefficients of the salary model are different than if the unadjusted numbers for current expenditures had been used and hence the forecasts are different.

The equations and results for this model are also shown in table A18. There is no literature for comparing the sizes of the coefficients. However, the direction of the impact each variable has on salaries is as expected: as the level of spending per pupil increases (higher CUREXP), more teachers can be hired, so demand for teachers increases and salaries may increase; as the number of students increases (higher ENRPOP and ENR1/ENR2), demand for teachers may increase, so salaries may increase.

The model used in *Projections of Education Statistics to 2011*, was identical to the model used for this edition. The models used for the five editions of *Projections of Education Statistics* before that were identical to that used in this edition except that average daily attendance was used rather than fall enrollment, as the measure of enrollment, and the sample period used to produce the forecast began in 1959–60 rather than 1969–70. In the eight earlier editions, similar models were used except the variables were not in log form. As with the current expenditures model, the change to fall enrollment was done because the definition of fall enrollment is more consistent across states. The other two changes were made because of superior model diagnostics.

As with current expenditures, three different scenarios are presented for teacher salaries. The same projections for ENRPOP and ENR are used for each alternative projection; the sole difference between the projections is in the projection for current expenditures. The middle alternative projection for salaries uses the middle alternative projection for current expenditures. The low alternative projection for salaries uses the low alternative projection for current expenditures. The high alternative projection for salaries uses the high alternative projection for current expenditures.

Current expenditures, average teacher salaries, and the number of teachers are interrelated; analysis was conducted to see whether the projections of these three time series were consistent.

The number of teachers was multiplied by the average salary and then divided by current expenditures for every school year from 1987–88 until 2012–13 (using the middle alternative projection for teachers, salaries, and current expenditures). The resulting value shows the portion of current expenditures that is spent on teacher salaries. The portion of current expenditures that goes toward teacher salaries has been in a slow downward trend, with the teacher salary share falling from 41 percent in 1987–88 to 37 percent in 2000–01. With the projected values, the portion of current expenditures that goes toward teacher salaries continues to fall slowly, falling to 33 percent in 2012–13. The results of this analysis indicate that the projections of these three time series are consistent.

Projection Accuracy

Thirteen out of the last 14 editions of *Projections of Education Statistics* contained projections of current expenditures and teacher salaries. The actual values of current expenditures and teacher salaries can be compared with the projected values in the previous editions to examine the accuracy of the models.

The projections from the various editions of *Projections of Education Statistics* were placed in 1981–82 dollars using the Consumer Price Indices that appeared in each edition.

In most of the earlier editions of *Projections of Education Statistics*, average daily attendance rather than fall enrollment was used as the measure of enrollment in the calculation of the current expenditure per pupil projection. However, projections of current expenditures per fall enrollment were presented in most of these earlier editions, and projections of fall enrollment were presented in all of these earlier editions. Hence, the projected values of both current expenditures per pupil in fall enrollment and current expenditures per pupil in average daily attendance can be compared to their respective actual values.

Similar sets of independent variables have been used in the production of the current expenditure projections presented in the last 11 editions of *Projections of Education Statistics*, including this one. There have been some differences in the construction of the variables, however. First, as noted, average

daily attendance was used in most of the previous editions rather than fall enrollment. Second, in *Projections of Education Statistics to 1997–98*, calendar year data were used for disposable income, the population, and the Consumer Price Index. With the later editions, school year data were used. Third, there have been two revisions in the disposable income time series, the first affecting the *Projections of Education Statistics to 2004* and the second, *Projections of Education Statistics to 2007*. Fourth, in the more recent editions, including this one, the U.S. Bureau of the Census's July 1 number for the population has been used. In the earlier editions, an average of the quarterly values was used. Fifth, in the more recent editions, the U.S. Bureau of the Census's population projections have been used. In the earlier editions, the population projections came from an economic consulting firm.

There has also been a change in the estimation procedure. In the more recent editions, the AR1 model for correcting for autocorrelation was used to estimate the model. In the earlier editions, ordinary least squares was used to estimate the model.

Several commonly used statistics can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A2. MAPEs of expenditure projections are presented for total current expenditures, current expenditures per pupil in fall enrollment, current expenditures per pupil in average daily attendance, and teacher salaries.

To calculate the MAPEs presented in table A2, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a separate average for each lead time. These means are the MAPEs. Table A2 contains a series of MAPEs for each dependent variable, with a different MAPE for each lead time.

For some editions of the *Projections of Education Statistics*, the first projection to be listed did not have a lead time of 1 year. For example, in *Projections of Education Statistics to 2002*, the first projection to appear was for 1990–91. This projection was calculated using a sample period ending in 1988–89, so it had a lead time of 2 years. The value that appeared for 1989–1990 was from NCES *Early Estimates*. Only those projections that appeared in an edition of *Projections of Education Statistics* were used in this evaluation.

Projections for teacher salaries also appeared in the 13 of the last 14 editions of *Projections of Education Statistics*. In these earlier editions, average daily attendance rather than fall enrollment was used as the measure of enrollment. Also, beginning with *Projections of Education Statistics to 2006*, there was one major change in the model used for teacher salary projections; all the variables were placed in log form. With this change in functional form, there was also a change in the way the change in enrollment was measured. In the most recent editions, the change in enrollment was measured by taking the ratio of the enrollment (previously average daily attendance) lagged one period to the enrollment lagged two periods. In the previous three editions of *Projections of Education Statistics*, the change in enrollment was measured by the change from the previous year in enrollment lagged one period. In *Projections of Education Statistics to 1997–98*, *Projections of Education Statistics to 2000*, and *Projections of Education Statistics to 2001*, both the change in average daily attendance lagged one period and the change in average daily attendance lagged two periods were included in the model.

There was another difference between the model used to produce the teacher salary projections in *Projections of Education Statistics to 1997–98* and those used in the later editions, including this one: in *Projections of Education Statistics to 1997–98*, variables in the model were calculated using calendar year data for the population and the Consumer Price Index rather than school year data as in previous editions.

Sources of Past and Projected Data

Numbers from several different sources were used to produce these projections. In some instances, the time series used were made by either combining numbers from various sources or manipulating the available numbers. The sources and the methods of manipulation are described here.

The time series used for current expenditures was compiled from several different sources. For the school years ending in even numbers from 1967–68 to 1975–76, the numbers for current expenditures were taken from various issues of *Statistics of State School Systems*, published by NCES. The numbers for the school years ending in odd numbers during the 1960s were taken from various issues of the National Education Association's *Estimates of School Statistics*. For the school years ending in odd numbers during the 1970s, up to and including 1976–77, the numbers were taken from various issues of *Revenues and Expenditures for Public Elementary and Secondary Education*, published by NCES. For the school years from 1977–78 until 2000–01, the numbers were taken from the NCES Common Core of Data survey and unpublished data.

For 1974–75 and 1976–77, expenditures for summer schools were subtracted from the published figures for current expenditures. The value for 1972–73 was the sum of current expenditures at the local level, expenditures for administration by state boards of education and state departments of education, and

expenditures for administration by intermediate administrative units.

Note that although the data from the different sources are similar, they are not entirely consistent. Also, the NCES numbers beginning with 1980–81 are not entirely consistent with the earlier NCES numbers, due to differing treatments of items such as expenditures for administration by state governments and expenditures for community services.

An alternative source for current expenditures would have been the U.S. Census Bureau's F-33, which offers statistics at the district level. This level of detail was not needed, however.

For most years, the sources for the past values of average daily attendance were identical to the sources for current expenditures. For 1978–79, the number was taken from *Revenues and Expenditures for Public Elementary and Secondary Education*.

Projections for average daily attendance for the period from 2001–02 to 2012–13 were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to the enrollment from 1990–91 to 2000–01; this average value was approximately .93.

The values for fall enrollment from 1967–68 to 1977–78 were taken from issues of the NCES publication *Statistics of Public Elementary and Secondary Schools*. The 1978–79 value was taken from the NCES Bulletin of October 23, 1979, "Selected Public and Private Elementary and Secondary Education Statistics." The values from 1979–80 to 2000–01 were taken from the NCES Common Core of Data survey. The projections for fall enrollment are those presented in Chapter 1 of this publication.

For 1967–68 to 2000–01, the sources for revenue receipts from state sources were the two NCES publications *Statistics of State School Systems* and *Revenues and Expenditures for Public Elementary and Secondary Education* and the NCES Common Core of Data survey. The methods for producing the alternative projections for revenue receipts from state sources are outlined above.

The estimates for average teacher salaries were taken from various issues of the National Education Association's *Estimates of School Statistics*.

The projected values for disposable income, personal taxes and nontax receipts to state and local governments, and indirect business taxes and tax accruals to state and local governments, were developed using projections developed by Global Insight's U.S. Quarterly Model. Projected values of the Consumer Price Index for all urban consumers, which was used for adjusting current expenditures, teacher salaries, revenue receipts from state sources, and the state revenue variables, were also developed using the U.S. Quarterly Model.

The U.S. Census Bureau supplied both the historical and projected values for the population.

The values of all the variables from Global Insight were placed in school-year terms. The school-year numbers were calculated by taking the average of the last two quarters of one year and the first two quarters of the next year.

The Elementary and Secondary School Price Index was considered as a replacement for the Consumer Price Index for placing current expenditures and teacher salaries in constant dollars. This index could not be used because the required projections of the index are not available. There are other price indexes, such as the implicit price deflator for state and local government purchases, which could have been used instead of the Consumer Price Index. These alternatives would have produced somewhat different projections.

Table A18. Equations for current expenditures per pupil in fall enrollment, estimated average annual salaries of teachers, and education revenue receipts from state sources

Dependent variable	Equation	R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Rho	Time period
Current expenditures per pupil	ln(CUREXP) = - 3.4 (-4.11) + 0.64ln(PCI) (3.28) + 0.36ln(SGRANT) (2.08) - 0.33ln(ENRPOP) (-1.82)	0.994	1.67	AR1	0.70 (5.35)	1967–68 to 2000–01
Estimated average annual salaries	ln(SALRY) = 11.3 (12.24) + 0.39ln(CUREXP) (5.36) + 0.52ln(ENRPOP) (3.38) + 1.76ln(ENR1/ENR2) (3.54)	0.952	1.49	AR1	0.85 (8.73)	1969–70 to 2000–01
Education revenue receipts from state sources per capita	ln(SGRNT) = 5.2 (4.62) + 0.63ln(PERTAX1) (12.40) + 0.38ln(ENRPOP) (2.16) - 0.028ln(RCPIANN/RCPIANN1) (-1.95)	0.981	1.95	AR1	0.60 (3.77)	1967–68 to 2000–01

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the method used to forecast when correcting for autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315–318.

Where:
CUREXP = Current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars
SALRY = Average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars
SGRNT = Local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars
PCI = Disposable income per capita in constant 1996 dollars
ENRPOP = Ratio of fall enrollment to the population
PERTAX1 = Personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period
RCPIANN = Inflation rate measured by the Consumer Price Index
RCPIANN1 = Inflation rate measured by the Consumer Price Index lagged 1 period
ENR1 = Fall enrollment lagged one period
ENR2 = Fall enrollment lagged two periods

NOTE: R^2 indicates the coefficient of determination. Rho measures the correlation between errors in time period t and time period t minus 1. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary School Current Expenditures Model; Elementary and Secondary Teacher Salary Model; and Revenue Receipts from State Sources Model. (This table was prepared July 2003.)

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Expenditures of Public Degree-Granting Postsecondary Institutions

One current-fund expenditure model and one educational and general expenditure model were estimated for each of two types of degree-granting institutions—public 4-year and public 2-year. Projections are presented for public institutions only, because financial surveys of private institutions have been redesigned and there is not enough data to model with the new accounting method.

The degree-granting institution econometric models were selected on the basis of their statistical properties, such as the coefficients of determination (R^2), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

Degree-Granting Institutions Expenditure Models

Similar econometric models were developed for the two types of public institutions, 4-year and 2-year. While there has been significantly less work by economists studying the factors influencing finance data of degree-granting institutions than those influencing elementary and secondary finance data, there have been some valuable studies. This body of work was used in building these models.

Each of the models presented here contains variables measuring at least two of the following three factors historically associated with the level of expenditures: (1) the state of the economy; (2) the inflation rate; and (3) enrollments. Revenues of state and local governments per capita were used to measure the state of the economy, and a dummy for years with inflation rates greater than 8 percent was used in the models for public 4-year institutions. In each model, an enrollment variable was included.

For each dependent variable, a number of alternative specifications were examined. In each case, the choice of the final specification was made after considering such factors as the coefficients of determination, the t-statistics of the variables, residual plots, and ex-post mean absolute percentage errors. The final specification of each model has the dependent variables and some of the independent variables as first differences.

Public 4-Year Institutions Expenditure Models

The public 4-year institutions current-fund expenditure model is:

$$DPUTCUR4 = b_0 + b_1 DSTREV1 + b_2 DPUFTE4 + b_3 DUMMY$$

where:

DPUTCUR4 is the change from the previous year in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant 1982–84 dollars;

DSTREV1 is the change from the previous year in the sum of personal tax and nontax receipts for state and local governments and indirect business taxes and tax accruals, excluding property taxes, for state and local governments, per capita, in constant 1982–84 dollars lagged 1 year;

DPUFTE4 is the change from the previous year in FTE enrollment in public 4-year institutions in thousands of students; and

DUMMY is a dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise.

This model and the other econometric models were estimated using a sample period from 1968–69 to 1999–2000. Ordinary least squares was used to estimate all the public institution models.

The results for this model are in table A19. Each variable affects current-fund expenditures in a logical fashion. The more revenues that state and local governments receive, the more expenditures they can make for public institutions of higher education. In a year with high inflation (DUMMY equals 1), current-fund expenditures in constant dollars are lower than they would have been otherwise. The more students in public 4-year institutions, the less money to be spent per student.

Three projections were produced: the middle alternative set of projections, the low alternative set of projections, and the high alternative set of projections. Each set of projections was based on a different set of assumptions for the revenues of state and local governments per capita. The projections for revenues of state and local governments per capita and the

other economic variables used to produce the higher education expenditure projections were produced using the U.S. Quarterly Model of the economic consulting firm, Global Insights, Inc.

In the middle set of alternative projections, the revenues of state and local governments per capita increase at rates between 2.0 percent and 8.9 percent from 2003–04 to 2012–13. In the low set of alternative projections, the revenues of state and local governments per capita increase at rates between 0.2 percent and 4.5 percent. In the high set of alternative projections, the revenues of state and local governments per capita increase at rates between 1.9 percent and 10.7 percent.

Projections for total current-fund expenditures were made by multiplying the projections for current-fund expenditures per student in FTE enrollment by projections for FTE enrollment. Projections were developed in 1982–84 dollars and then placed in 2001–02 dollars using projections for the Consumer Price Index. Current dollar projections were produced by multiplying the constant dollar projections by projections for the Consumer Price Index. All the higher education total expenditure projections, all expenditure projections in 2001–02 dollars, and all the current dollar projections were calculated in a similar fashion.

A model for educational and general expenditures of public 4-year institutions was developed using the same variables as the current-fund expenditure model. The model is:

$$DPUED4 = b_0 + b_1DSTREV1 + b_2DPUFTE4 + b_3DUMMY$$

where:

DPUED4 is the change from the previous year in educational and general expenditures per student in FTE enrollment in public 4-year institutions in constant 1982–84 dollars.

This model is also shown in table A19.

As with current-fund expenditures, each variable affects expenditures in the expected way.

Public 2-Year Institutions Expenditure Models

The public 2-year institutions current-fund expenditure model has a form similar to the public 4-year institutions current-fund expenditure model except that the public 2-year institutions model does not contain any inflation variables. The model is:

$$DPUTCUR2 = b_0 + b_1DSTREV1 + b_2DPUFTE2$$

where:

DPUTCUR2 is the change from the previous year in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars; and

DPUFTE2 is the change from the previous year in FTE enrollment in public 2-year institutions in thousands of students.

The results for this model are in table A19. Again, DSTREV1 has the expected positive effect on expenditures, and the FTE enrollment variable has the expected negative impact.

The public 2-year institutions educational and general expenditure model is virtually identical to its current-fund expenditure counterpart. It is:

$$DPUED2 = b_0 + b_1DSTREV1 + b_2DPUFTE2$$

where:

DPUED2 is the change from the previous year in educational and general expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars.

The results of this model appear in table A19.

Projection Accuracy

This is the 10th time in recent years that *Projections of Education Statistics* has contained projections of expenditures of postsecondary institutions data. The other nine editions were *Projections of Education Statistics to 2010*, *Projections of Education Statistics to 2009*, *Projections of Education Statistics to 2008*, *Projections of Education Statistics to 2007*, *Projections of Education Statistics to 2006*, *Projections of Education Statistics to 2005*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2003* and *Projections of Education Statistics to 2000*. The projections that appeared in the most recent editions of *Projections of Education Statistics* were developed using the same methodology as that presented here. Those that appeared in *Projections of Education Statistics to 2000* were produced using substantially different models.

Several commonly used statistics can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A2. MAPEs are presented for current-fund expenditures in public 4-year and public 2-year institutions. The MAPEs were calculated using

projections from last eight editions of the *Projections of Education Statistics*.

To calculate the MAPEs, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a separate average for each lead time. These means are the MAPEs of each variable for each for lead times from 1 to 10 years are presented in table A2.

Sources of Data

The current-fund expenditure data and the educational and general expenditure data are from the Integrated Postsecondary Education Data System (IPEDS) "Finance" surveys of the National Center for Education Statistics (NCES). One manipulation of the educational and general expenditures numbers was required. From 1968–69 to 1973–74, student-aid expenditures were a separate component of current-fund expenditures. From 1974–75 on, scholarships and fellowships have been a component of educational and general expenditures. Hence, for the period 1968–69 to 1973–74, student aid was added to the published numbers for educational and general expenditures.

The full-time-equivalent (FTE) enrollment data are from the "Fall Enrollment in Colleges and Universities" surveys of NCES. The FTE enrollment figures for 1968–69, 1969–70, and 1970–71 were estimated using part-time and full-time enrollment data. Full-time-equivalent enrollment was derived by adding one-third of part-time enrollment to total full-time-enrollment.

Table A19. Equations for current-fund expenditures per full-time-equivalent enrollment and educational and general expenditures per full-time-equivalent enrollment in public 4-year institutions and public 2-year institutions

Dependent Variable	Equation					R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Time period
Current-fund expenditures per student in public 4-year institutions	DPUTCUR4	=	251.9 (5.06)	+ 3.15DSTREV1 (3.10)	- 1.69DPUFTE4 (-5.36)	0.667	1.89	OLS	1968-69 to 1999-2000
			- 220DUMMY (-3.22)						
Current-fund expenditures per student in public 2-year institutions	DPUTCUR2	=	15.8 (0.59)	+ 3.56DSTREV1 (5.79)	- 0.73DPUFTE2 (-5.07)	0.749	2.24	OLS	1968-69 to 1999-2000
Educational and general expenditures per student in public 4-year institutions	DPUED4	=	182.3 (3.70)	+ 2.85DSTREV1 (2.84)	- 1.70DPUFTE4 (-5.47)	0.649	1.40	OLS	1968-69 to 1999-2000
			- 222DUMMY (-3.38)						
Educational and general expenditures per student in public 2-year institutions	DPUED2	=	8.7 (0.30)	+ 3.62DSTREV1 (5.55)	- 0.61DPUFTE2 (-3.94)	0.696	1.93	OLS	1968-69 to 1999-2000

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*. New York: McGraw-Hill, 1972, pages 251-252.

[2] ARI indicates an estimation procedure for correcting the problem of first-order autocorrelation. OLS indicates Ordinary Least Squares. For a general discussion of the problem of autocorrelation, and the method used to forecast when correcting for autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometric*. New York: John Wiley and Sons, 1985, pages 315-318.

Where:

DPUTCUR4 = Change from the previous year in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant dollars
DPUTCUR2 = Change from the previous year in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982-84 dollars
DPUED4 = Change from the previous year in educational and general expenditures per student in FTE enrollment in public 4-year institutions in constant 1982-84 dollars
DPUED2 = Change from the previous year in educational and general expenditures per student in FTE enrollment in public 2-year institutions in constant 1982-84 dollars
DSTREV1 = Change from the previous year in the sum of personal tax and nontax receipts for state and local governments and indirect business taxes and tax accruals, in constant 1982-84 dollars lagged one year
DSTREV1 = Change from the previous year in the sum of personal tax and nontax receipts for state and local governments and indirect business taxes and tax accruals, excluding property taxes, to state and local governments, per capita, in constant 1982-84 dollars lagged one year
DPCI = Change from the previous year in disposable income per capita in 1992 dollars
DPUFTE4 = Change from the previous year in FTE enrollment in public 4-year institutions in thousands of students
DPUFTE2 = Change from the previous year in FTE enrollment in public 2-year institutions in thousands of students
DUMMY = Dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education Expenditure Models.

(This table was prepared July 2003.)

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Appendix B
Supplementary Tables

Table B1. Annual number of births: 1946 to 2001

[In thousands]

Calendar year	Number of births	Calendar year	Number of births
1946	3,426	1974	3,160
1947	3,834	1975	3,144
1948	3,655	1976	3,168
1949	3,667	1977	3,327
1950	3,645	1978	3,333
1951	3,845	1979	3,494
1952	3,933	1980	3,612
1953	3,988	1981	3,629
1954	4,102	1982	3,681
1955	4,128	1983	3,639
1956	4,244	1984	3,669
1957	4,332	1985	3,761
1958	4,279	1986	3,757
1959	4,313	1987	3,809
1960	4,307	1988	3,910
1961	4,317	1989	4,041
1962	4,213	1990	4,158
1963	4,142	1991	4,111
1964	4,070	1992	4,065
1965	3,801	1993	4,000
1966	3,642	1994	3,953
1967	3,555	1995	3,900
1968	3,535	1996	3,891
1969	3,626	1997	3,881
1970	3,739	1998	3,942
1971	3,556	1999	3,959
1972	3,258	2000	4,063
1973	3,137	2001	4,028

NOTE: Some data have been revised from previously published figures.

SOURCE: U.S. Department of Health and Human Services, National Center for Health Statistics (NCHS), Annual Summary of Births, Marriages, Divorces, and Deaths: United States, various years, *National Vital Statistics Reports*. (This table was prepared June 2003.)

Table B2. Preprimary school-age populations (U.S. Census projections, Middle Series): 1988 to 2001

[In thousands]

Year (July 1)	3-year-olds	4-year-olds	5-year-olds	3-to-5-year-olds
1988	3,619	3,556	3,627	10,802
1989	3,646	3,669	3,559	10,874
1990	3,658	3,697	3,679	11,034
1991	3,714	3,710	3,695	11,120
1992	3,808	3,769	3,710	11,287
1993	3,965	3,867	3,773	11,605
1994	3,990	4,024	3,868	11,882
1995	3,964	4,050	4,024	12,038
1996	3,888	4,023	4,050	11,961
1997	3,839	3,949	4,025	11,812
1998	3,799	3,897	3,950	11,647
1999	3,755	3,853	3,895	11,502
2000	3,826	3,906	3,959	11,691
2001	3,812	3,835	3,916	11,562

NOTE: Some data have been revised from previously published figures. Details may not sum to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and previously unpublished tabulation (June 2003). (This table was prepared June 2003.)

Table B3. School-age populations (U.S. Census projections, Middle Series), ages 5, 6, 5 to 13, and 14 to 17 years: 1988 to 2001

[In thousands]

Year (July 1)	5-year-olds	6-year-olds	5-to-13-year-olds	14-to-17-year-olds
1988	3,627	3,611	31,030	14,023
1989	3,559	3,625	31,412	13,535
1990	3,679	3,561	32,002	13,322
1991	3,695	3,674	32,470	13,452
1992	3,710	3,693	32,943	13,703
1993	3,773	3,712	33,382	13,989
1994	3,868	3,771	33,713	14,492
1995	4,024	3,865	34,195	14,828
1996	4,050	4,020	34,604	15,213
1997	4,025	4,048	35,005	15,499
1998	3,950	4,022	35,396	15,518
1999	3,895	3,944	35,603	15,654
2000	3,959	4,010	37,043	16,112
2001	3,916	3,969	37,039	16,205

NOTE: Some data have been revised from previously published figures. Details may not sum to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and previously unpublished tabulation (June 2003). (This table was prepared June 2003.)

Table B4. College-age populations (U.S. Census projections, Middle Series), ages 18, 18 to 24, 25 to 29, 30 to 34, and 35 to 44 years: 1988 to 2001

[In thousands]

Year (July 1)	18-year-olds	18-to-24-year-olds	25-to-29-year-olds	30-to-34-year-olds	35-to-44-year-olds
1988	3,803	27,584	21,869	21,470	35,258
1989	3,888	27,378	21,690	21,759	36,494
1990	3,606	27,044	21,361	21,996	37,859
1991	3,397	26,563	20,834	22,243	39,374
1992	3,332	26,121	20,229	22,310	39,975
1993	3,422	25,867	19,647	22,289	40,877
1994	3,384	25,515	19,176	22,191	41,752
1995	3,543	25,215	18,967	21,879	42,610
1996	3,580	24,943	18,995	21,364	43,418
1997	3,696	25,076	18,880	20,787	44,068
1998	3,882	25,573	18,635	20,213	44,552
1999	3,877	26,106	18,266	19,770	44,866
2000	4,060	27,371	19,317	20,587	45,184
2001	4,067	27,922	18,932	20,718	45,058

NOTE: Some data have been revised from previously published figures. Details may not sum to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and previously unpublished tabulation (June 2003). (This table was prepared June 2003.)

Table B5. Fall enrollment in public elementary and secondary schools, change in fall enrollment, the population, and fall enrollment as a proportion of the population: 1987–88 to 2012–13

Year ending	Fall enrollment (in thousands)	Change in fall enrollment (in thousands)	Population (in millions)	Fall enrollment as a ratio of the population
1988	40,008	255	242.8	0.165
1989	40,188	180	245.0	0.164
1990	40,543	355	247.3	0.164
1991	41,217	674	250.0	0.165
1992	42,047	830	252.7	0.166
1993	42,823	776	255.4	0.168
1994	43,465	642	258.1	0.168
1995	44,111	647	260.6	0.169
1996	44,840	729	263.1	0.170
1997	45,611	771	265.5	0.172
1998	46,127	516	268.0	0.172
1999	46,539	412	270.5	0.172
2000	46,857	319	272.9	0.172
2001	47,223	365	282.3	0.167
		Projected		
2002	47,688	465	—	—
2003	47,918	230	—	—
2004	48,040	123	—	—
2005	48,175	135	—	—
2006	48,304	129	—	—
2007	48,524	220	—	—
2008	48,640	116	—	—
2009	48,690	50	—	—
2010	48,761	71	—	—
2011	48,890	129	—	—
2012	49,084	193	—	—
2013	49,367	283	—	—

—Not available.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and previously unpublished tabulations (June 2001), U.S. Department of Education, National Center for Education Statistics, The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," various years, and Elementary and Secondary Enrollment Model. (This table was prepared July 2001.)

Table B6. Macroeconomic measures of the economy, with alternative projections: Fiscal years 1987–88 to 2012–13

Year ending	Disposable income per capita[1]	Education revenue receipts from state sources per capita[2]	Consumer Price Index	Rate of change for the inflation rate
1988	$21,252	$332	0.650	0.885
1989	21,852	351	0.680	0.109
1990	22,105	357	0.713	0.046
1991	22,094	361	0.752	0.145
1992	22,239	355	0.776	-0.418
1993	22,512	355	0.800	-0.021
1994	22,697	356	0.821	-0.159
1995	23,173	381	0.844	0.085
1996	23,446	399	0.867	-0.043
1997	23,883	418	0.892	0.043
1998	24,694	448	0.908	-0.369
1999	25,490	478	0.924	-0.029
2000	26,086	712	0.950	0.649
2001	26,115	718	0.983	0.193
2002	26,641	710	1.000	-0.486
		Middle alternative projections		
2003	27,385	664	1.021	0.182
2004	28,621	654	1.039	-0.125
2005	29,272	662	1.061	0.127
2006	29,793	698	1.083	0.023
2007	30,086	720	1.109	0.124
2008	30,409	727	1.137	0.104
2009	30,904	735	1.169	0.070
2010	31,483	743	1.203	0.024
2011	32,135	751	1.237	0.007
2012	32,910	761	1.273	0.001
2013	33,799	772	1.309	0.013
		Low alternative projections		
2003	27,370	663	1.021	0.209
2004	28,099	649	1.046	0.127
2005	28,205	644	1.078	0.292
2006	28,283	662	1.115	0.092
2007	28,213	675	1.156	0.091
2008	28,261	676	1.201	0.059
2009	28,475	675	1.250	0.031
2010	28,837	679	1.300	-0.003
2011	29,374	679	1.353	0.023
2012	29,982	684	1.409	-0.006
2013	30,733	689	1.467	0.011
		High alternative projections		
2003	27,590	663	1.022	0.223
2004	29,199	652	1.046	0.122
2005	29,895	684	1.073	0.041
2006	30,618	727	1.098	-0.038
2007	31,266	743	1.126	0.049
2008	32,028	754	1.156	0.021
2009	33,049	765	1.185	-0.014
2010	34,112	778	1.216	0.004
2011	35,120	795	1.246	-0.013
2012	36,219	811	1.276	0.060
2013	37,426	820	1.305	-0.042

[1] In 2001–02 dollars based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.

[2] In 2001–02 dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics: The NCES Common Core of Data (CCD), "National Public Education Financial Survey," various years; Revenue Receipts from State Sources Model; and Global Insight, Inc. "U.S. Quarterly Model: February 2003 Long-Term Projections."
(This table was prepared July 2003.)

Table B7. Measures of state and local government revenues, with alternative projections: Fiscal years 1987–88 to 2012–13

Year ending	Personal tax and nontax payments per capita[1]	Indirect business taxes and tax accruals per capita[1]	Tax and nontax payments per capita[1]
1988	$698	$1,215	$1,913
1989	728	1,219	1,947
1990	748	1,224	1,972
1991	748	1,204	1,952
1992	772	1,218	1,990
1993	784	1,247	2,031
1994	802	1,293	2,095
1995	822	1,322	2,143
1996	845	1,341	2,186
1997	877	1,360	2,237
1998	928	1,402	2,330
1999	985	1,458	2,443
2000	1,031	1,491	2,522
2001	1,010	1,451	2,461
2002	959	1,447	2,406
	Middle alternative projections		
2003	937	1,471	2,408
2004	975	1,503	2,478
2005	1,062	1,543	2,605
2006	1,126	1,572	2,698
2007	1,150	1,597	2,747
2008	1,172	1,616	2,788
2009	1,197	1,632	2,829
2010	1,222	1,650	2,872
2011	1,250	1,671	2,921
2012	1,281	1,699	2,980
2013	1,320	1,735	3,054
	Low alternative projections		
2003	936	1,468	2,404
2004	938	1,461	2,399
2005	979	1,467	2,447
2006	1,016	1,462	2,478
2007	1,021	1,451	2,472
2008	1,023	1,443	2,466
2009	1,037	1,437	2,474
2010	1,043	1,434	2,477
2011	1,055	1,441	2,496
2012	1,071	1,451	2,523
2013	1,089	1,469	2,558
	High alternative projections		
2003	943	1,481	2,424
2004	1,022	1,541	2,563
2005	1,131	1,574	2,706
2006	1,180	1,607	2,787
2007	1,212	1,643	2,854
2008	1,246	1,675	2,921
2009	1,287	1,713	3,001
2010	1,336	1,755	3,092
2011	1,378	1,795	3,173
2012	1,408	1,836	3,245
2013	1,436	1,887	3,323

[1]In 2001–02 dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: Global Insight, Inc., "U.S. Quarterly Model: February 2003 Long-Term Projections." (This table was prepared July 2003.)

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Appendix C
Data Sources

Sources and Comparability of Data

The information in this report was obtained from many sources, including federal and state agencies, private research organizations, and professional associations. The data were collected by many methods, including surveys of a universe (such as all colleges) or of a sample, and compilations of administrative records. Care should be used when comparing data from different sources. Differences in procedures, such as timing, phrasing of questions, and interviewer training, mean that the results from the different sources are not strictly comparable. More extensive documentation of one survey's procedures than of another's does not imply more problems with the data, only that more information is available on the survey.

Accuracy of Data

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. Besides sampling errors, both surveys, universe and sample, are subject to errors of design, reporting, processing, and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

Sampling Errors

The standard error is the primary measure of sampling variability. It provides a specific range—with a stated confidence—within which a given estimate would lie if a complete census had been conducted. The chances that a complete census would differ from the sample by less than the standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100. The chances that the difference would be less than 1.96 times the standard error are about 95 out of 100. The chances that it would be less than 2.58 times as large are about 99 out of 100.

The standard error can help assess how valid a comparison between two estimates might be. The standard error of a difference between two sample estimates that are uncorrelated is approximately equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between sample estimate "a" and sample estimate "b" is:

$$se_{a-b} = (se_a^2 + se_b^2)^{1/2}$$

Note that most of the standard errors in subsequent sections and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

Nonsampling Errors

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors are of two kinds—random and nonrandom. Random nonsampling errors may arise when respondents or interviewers interpret questions differently, when respondents must estimate values, or when coders, keyers, and other processors handle answers differently. Nonrandom nonsampling errors result from total nonresponse (no usable data obtained for a sampled unit), partial or item nonresponse (only a portion of a response may be usable), inability or unwillingness on the part of respondents to provide information, difficulty interpreting questions, mistakes in recording or keying data, errors of collection or processing, and overcoverage or undercoverage of the target universe. Random nonresponse errors usually, but not always, result in an understatement of sampling errors and thus an overstatement of the precision of survey estimates. Because estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both total and partial. Imputations are usually made separately within various groups of sample members that have similar survey characteristics. Imputation for item nonresponse is usually made by substituting for a missing item the response to that item of a respondent having characteristics similar to those of the respondent.

Although the magnitude of nonsampling errors in the data used in *Projections of Education Statistics* is frequently unknown, idiosyncrasies that have been identified are noted on the appropriate tables.

Federal Agency Sources

National Center for Education Statistics (NCES)

Common Core of Data

NCES uses the Common Core of Data (CCD) survey to acquire and maintain statistical data from each of the 50 states, the District of Columbia, the Bureau of Indian Affairs, Department of Defense Dependents' Schools (overseas), and the outlying areas. Information about staff and students is collected annually at the school, local education agency or school district (LEA), and state levels. Information about revenues and expenditures is also collected at the state and LEA levels.

Data are collected for a particular school year (October 1 through September 30) via survey instruments sent to the state education agencies during the school year. States have 1 year in which to modify the data originally submitted.

Since the CCD is a universe survey, the CCD information presented in this edition of the *Projections of Education Statistics* is not subject to sampling errors. However, nonsampling errors could come from two sources—nonreturn and inaccurate reporting. Almost all of the states submit the six CCD survey instruments each year, but submissions are sometimes incomplete or too late for publication.

Understandably, when 58 education agencies compile and submit data for approximately 92,000 public schools and 16,000 local school districts, misreporting can occur. Typically, this results from varying interpretations of NCES definitions and differing recordkeeping systems. NCES attempts to minimize these errors by working closely with the state education agencies through the National Forum on Education Statistics.

The state education agencies report data to NCES from data collected and edited in their regular reporting cycles. NCES encourages the agencies to incorporate into their own survey systems the NCES items they do not already collect so that those items will also be available for the subsequent CCD survey. Over time, this has meant fewer missing data cells in each state's response, reducing the need to impute data.

NCES subjects data from the education agencies to a comprehensive edit. Where data are determined to be inconsistent, missing, or out of range, NCES contacts the education agencies for verification. NCES-prepared state summary forms are returned to the state education agencies for verification. States are also given an opportunity to revise their state-level aggregates from the previous survey cycle.

Further information on CCD may be obtained from:

John Sietsema
Elementary/Secondary Cooperative System and Institutional Studies Division (ESCSISD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
John.Sietsema@ed.gov
http://nces.ed.gov/ccd/

Private School Universe Survey

The purposes of Private School Survey (PSS) data collection activities are to build an accurate and complete list of private schools to serve as a sampling frame for NCES sample surveys of private schools; and to report data on the total number of private schools, teachers, and students in the survey universe. The PSS is conducted every 2 years, with collections in the 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, and 1999–2000 school years.

The PSS produces data similar to that of the CCD for the public schools and can be used for public-private comparisons. The data are useful for a variety of policy and research-relevant issues, such as the growth of religiously affiliated schools, the number of private high school graduates, the length of the school year for various private schools, and the number of private school students and teachers.

The target population for the universe survey consists of all private schools in the United States that meet NCES criteria of a school (e.g., private school is an institution which provides instruction for any of grades K through 12, has one or more teachers to give instruction, is not administered by a public agency, and is not operated in a private home). The survey universe is composed of schools identified from a variety of sources. The main source is a list frame, initially

developed for the 1989–90 PSS. The list is updated regularly, matching it with lists provided by nationwide private school associations, state departments of education, and other national guides and sources that list private schools. The other source is an area frame search in approximately 120 geographic areas, conducted by the Bureau of the Census.

Further information on PSS may be obtained from:

Steve Broughman
Elementary/Secondary Sample Survey Studies program (ESLSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Stephen.Broughman@ed.gov
http://nces.ed.gov/surveys/pss/

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys approximately 10,000 postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaced the Higher Education General Information Survey (HEGIS).

IPEDS consists of several integrated components that obtain information on who provides postsecondary education (institutions), who participates in it and completes it (students), what programs are offered and what programs are completed, and both the human and financial resources involved in the provision of institutionally based postsecondary education. Specifically, these components include Institutional Characteristics, including instructional activity; Fall Enrollment, including age and residence; Completions; Finance; Staff; Salaries of Full-Time Instructional Faculty; Student Financial Aid; and Graduation Rate.

The degree-granting institutions portion of this survey is a census of colleges awarding associate's or higher degrees and that were eligible to participate in Title IV financial aid programs. Prior to 1993, data from the technical and vocational institutions were collected through a sample survey. Beginning in 1993, all data are gathered in a census of all postsecondary institutions. The tabulations on "Institutional Characteristics" developed for this edition of *Projections of Education Statistics* are based on lists of all institutions and are not subject to sampling errors.

The definition of institutions generally thought of as offering college and university education has been changed in recent years. The old standard for higher education institutions included those institutions that had courses that led to an associate degree or higher, or were accepted for credit towards those degrees. The higher education institutions were accredited by an agency or association that was recognized by the U.S. Department of Education or recognized directly by the Secretary of Education. The current category includes institutions which award associate or higher level degrees that are eligible to participate in Title IV federal financial aid programs. Tables that contain any data according to this standard are titled as "degree-granting" institutions. The impact of this change has generally not been large. For example, tables on faculty salaries and benefits were only affected to a very small extent. Also, degrees awarded at the bachelor's level or higher were not heavily affected. Most of the data on public 4-year colleges has been affected only to a minimal extent. The impact on enrollment in public 2-year colleges was noticeable in certain states, but relatively small at the national level. The largest impact has been on private 2-year college enrollment. Overall, enrollment for all institutions was about one-half of a percent higher for degree-granting institutions compared to the total for higher education institutions.

Prior to the establishment of IPEDS in 1986, HEGIS acquired and maintained statistical data on the characteristics and operations of institutions of higher education. Implemented in 1966, HEGIS was an annual universe survey of institutions accredited at the college level by an agency recognized by the Secretary of the U.S. Department of Education. These institutions were listed in the NCES publication *Education Directory, Colleges and Universities*.

HEGIS surveys solicited information concerning institutional characteristics, faculty salaries, finances, enrollment, and degrees. Since these surveys were distributed to all higher education institutions, the data presented are not subject to sampling error. However, they are subject to nonsampling error, the sources of which varied with the survey instrument. Information concerning the nonsampling error of the enrollment and degrees surveys draws extensively on the *HEGIS Post-Survey Validation Study* conducted in 1979.

Further information on IPEDS may be obtained from:

Susan Broyles
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Susan.Broyles@ed.gov
http://nces.ed.gov/ipeds/

Institutional Characteristics This survey provides the basis for the universe of institutions presented in the *Directory of Postsecondary Institutions*. The survey collects

basic information necessary to classify the institutions, including control, level, and kinds of programs; and information on tuition, fees, and room and board charges. Beginning in 2000, the survey collected institutional pricing data from institutions with first-time, full-time, degree/certificate-seeking undergraduate students. Unduplicated full-year enrollment counts and instructional activity are now collected on the Fall Enrollment survey. The overall response rate was 95.5 percent for 2001.

Further information may be obtained from:

Patricia Brown
Postsecondary Institutional Studies Program (PSID)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Patricia.Brown@ed.gov
http://nces.ed.gov/ipeds/

Fall Enrollment This survey has been part of the HEGIS and IPEDS series since 1966. The enrollment survey response rate is relatively high. The 2000 overall response rate was 97.2 percent for degree-granting institutions. The imputation method differed for 1999 compared to earlier surveys. For all institutions that did not report in 1999, data from the previous year were used as 1999 estimates. Major sources of nonsampling error for this survey, as identified in the 1979 report, were classification problems, the unavailability of needed data, interpretation of definitions, the survey due date, and operational errors. Of these, the classification of students appears to have been the main source of error. Institutions had problems in correctly classifying first-time freshmen and other first-time students for both full-time and part-time categories. These problems occurred most often at 2-year institutions (private and public) and private 4-year institutions. In the 1977–78 HEGIS validation studies, the classification problem led to an estimated overcount of 11,000 full-time students and an undercount of 19,000 part-time students. Although the ratio of error to the grand total was quite small (less than 1 percent), the percentage of errors was as high as 5 percent for detailed student levels and even higher at certain aggregation levels.

Beginning in fall 1986, the survey system was redesigned with the introduction of IPEDS (see above). The survey allows (in alternating years) for the collection of age and residence data.

Further information may be obtained from:

Frank Morgan
Postsecondary Institutional Studies Program (PSID)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Frank.Morgan@ed.gov
http://nces.ed.gov/ipeds/

Completions This survey was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970–71, 1982–83, and 1991–92. Collection of degree data has been maintained through the IPEDS system.

Though information from survey years 1970–71 through 1981–82 is directly comparable, care must be taken if information before or after that period is included in any comparison. Degrees-conferred trend tables arranged by the 1991–92 classification are included in *Projections of Education Statistics* to provide consistent data from 1970–71 to the most recent year. Data in this edition on associate's and other formal awards below the baccalaureate level, by field of study, cannot be made comparable with figures prior to 1982–83. The nonresponse rate did not appear to be a significant source of nonsampling error for this survey. The return rate over the years has been high, with the degree-granting institutions response rate for the 2000–01 survey at 92.3 percent. Because of the high return rate for degree-granting institutions, nonsampling error caused by imputation is also minimal.

The major sources of nonsampling error for this survey were differences between the NCES program taxonomy and taxonomies used by the colleges, classification of double majors, operational problems, and survey timing. In the 1979 HEGIS validation study, these sources of nonsampling error contributed to an error rate of 0.3 percent overreporting of bachelor's degrees and 1.3 percent overreporting of master's degrees. The differences, however, varied greatly among fields. Over 50 percent of the fields selected for the validation study had no errors identified. Categories of fields that had large differences were business and management, education, engineering, letters, and psychology. It was also shown that differences in proportion to the published figures were less than 1 percent for most of the selected fields that had some errors. Exceptions to these were master's and Ph.D. programs in labor and industrial relations (20 percent and 8 percent); bachelor's and master's programs in art education (3 percent and 4 percent); bachelor's and Ph.D. programs in business and commerce, and in distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and Ph.D. programs in psychology (11 percent).

Further information on IPEDS Completions surveys may be obtained from:

Frank Morgan
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Frank.Morgan@ed.gov
http://nces.ed.gov/ipeds/

Financial Statistics This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. The FY 76 survey instrument contained numerous revisions to earlier survey forms and made direct comparisons of line items very difficult. Beginning in FY 82, Pell Grant data were collected in the categories of federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures. The introduction of IPEDS in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies. Finance tables for this publication have been adjusted by subtracting the largely duplicative Pell Grant amounts from the later data to maintain comparability with pre-FY 82 data.

Possible sources of nonsampling error in the financial statistics include nonresponse, imputation, and misclassification. The response rate has been about 85 to 90 percent for most of the years. The response rate for the FY 2000 survey was 96.7 percent for degree-granting institutions.

Two general methods of imputation were used in HEGIS. If the prior year's data were available for a nonresponding institution, these data were inflated using the Higher Education Price Index and adjusted according to changes in enrollments. If no previous year's data were available, current data were used from peer institutions selected for location (state or region), control, level, and enrollment size of institution. In most cases estimates for nonreporting institutions in IPEDS were made using data from peer institutions.

Beginning with FY 87, the IPEDS survey system included all postsecondary institutions, but maintained comparability with earlier surveys by allowing 2- and 4-year institutions to be tabulated separately. For FY 87 through FY 91, in order to maintain comparability with the historical time series of HEGIS institutions, data were combined from two of the three different survey forms that make up the IPEDS survey system. The vast majority of the data were tabulated from form 1, which was used to collect information from public and private not-for-profit 2- and 4-year colleges. Form 2, a condensed form, was used to gather data for the 2-year for-profit institutions. Because of the differences in the data requested on the two forms, several assumptions were made about the form 2 reports so that their figures could be included in the degree-granting institutions totals.

In IPEDS, the form 2 institutions were not asked to separate appropriations from grants and contracts, nor state from local sources of funding. For the form 2 institutions, all the federal revenues were assumed to be federal grants and contracts, and all of the state and local revenues were assumed to be restricted state grants and contracts. All other form 2 sources of revenue, except for tuition and fees and sales and services of educational activities, were included under "other." Similar adjustments were made to the expenditure accounts. The form 2 institutions reported instruction and scholarship and fellowship expenditures only. All other educational and general expenditures were allocated to academic support.

To reduce reporting error, NCES uses national standards for reporting finance statistics. These standards are contained in *College and University Business Administration: Administrative Services (1974 Edition)*, and the *Financial Accounting and Reporting Manual for Higher Education (1990 Edition)*, published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accountants; and *HEGIS Financial Reporting Guide (1980)*, by NCES. Wherever possible, definitions and formats in the survey form are consistent with those in these four accounting texts.

Further information on IPEDS Financial Statistics surveys may be obtained from:

Cathy Statham
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Cathy.Statham@ed.gov
http://nces.ed.gov/ipeds/

Bureau of the Census

Current Population Survey

Current estimates of school enrollment rates, as well as social and economic characteristics of students, are based on data collected in the Census Bureau's monthly household survey of about 50,000 dwelling units. The monthly Current Population Survey (CPS) sample consists of 754 areas comprising 2,007 geographical areas, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The samples are initially selected based on the decennial census files and are periodically updated to reflect new housing construction.

The monthly CPS deals primarily with labor force data for the civilian noninstitutional population (i.e., excluding military personnel and their families living on post and inmates of institutions). In addition, in October of each year, supplemental questions are asked about highest grade completed, level and grade of current enrollment, attendance status, number and type of courses, degree or certificate objective, and type of organization offering instruction for each member of the household. In March of each year, supplemental questions on income are asked. The responses to these questions are combined with answers to two questions on educational attainment: highest grade of school ever attended, and whether that grade was completed.

The estimation procedure employed for monthly CPS data involves inflating weighted sample results to independent estimates of characteristics of the civilian noninstitutional population in the United States by age, sex, and race. These independent estimates are based on statistics from decennial censuses; statistics on births, deaths, immigration, and emigration; and statistics on the population in the armed services. Generalized standard error tables are provided in the *Current Population Reports*. The data are subject to both nonsampling and sampling errors.

Further information on CPS may be obtained from:

Education and Social Stratification Branch
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
http://www.bls.census.gov/cps/cpsmain.htm

School Enrollment Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population 3 years old and over, in addition to the monthly basic survey on labor force participation. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. The question of current enrollment may not be answered accurately for various reasons. Some respondents may not know current grade information for every student in the household, a problem especially for households with members in college or in nursery school. Confusion over college credits or hours taken by a student may make it difficult to determine the year in which the student is enrolled. Problems may occur with the definition of nursery school (a group or class organized to provide educational experiences for children), where respondents' interpretations of "educational experiences" vary.

The 2000 CPS sample was selected from the 1990 Decennial Census files with coverage in all 50 states and the District of Columbia. The sample is continually updated to account for new residential construction. The United States was divided into 2,007 geographic areas. In most states, a geographic area consists of a county or several contiguous counties. In some areas of New England and Hawaii, minor civil divisions are used instead of counties. A total of 754 geographic areas were selected for the sample. About 50,000 occupied households are eligible for interview every month. Interviewers are unable to obtain interviews at about 3,200 of these units. This occurs when the occupants are not found at home after repeated calls or are unavailable for some other reason. For the October 2000 basic CPS, the nonresponse rate was 6.8 percent. For the school enrollment supplement, the nonresponse rate was an additional 3.1 percent for a total school supplement nonresponse rate of 9.7 percent.

Further information on CPS "School Enrollment" may be obtained from:

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
http://www.census.gov/population/www/socdemo/school.html

State Population Projections. These state population projections were prepared using a cohort-component method by which each component of population change—births, deaths, state-to-state migration flows, international in-migration, and international out-migration—was projected separately for each birth cohort by sex, race, and Hispanic origin. The basic framework was the same as in past Census Bureau projections.

Detailed components necessary to create the projections were obtained from vital statistics, administrative records, census data, and national

projections.

The cohort-component method is based on the traditional demographic accounting system:

$$P_1 = P_0 + B - D + DIM - DOM + IIM - IOM$$

where:

P_1 = population at the end of the period

P_0 = population at the beginning of the period

B = births during the period

D = deaths during the period

DIM = domestic in-migration during the period

DOM = domestic out-migration during the period

IIM = international in-migration during the period

IOM = international out-migration during the period

To generate population projections with this model, the Census Bureau created separate data sets for each of these components. In general, the assumptions concerning the future levels of fertility, mortality, and international migration are consistent with the assumptions developed for the national population projections of the Census Bureau.

Once the data for each component were developed, it was a relatively straightforward process to apply the cohort-component method and produce the projections. For each projection year the base population for each state was disaggregated into eight race and Hispanic categories (non-Hispanic White; non-Hispanic Black; non-Hispanic American Indian, Eskimo, and Aleut; non-Hispanic Asian and Pacific Islander; Hispanic White; Hispanic Black; Hispanic American Indian, Eskimo, and Aleut; and Hispanic Asian and Pacific Islander), by sex, and single year of age (ages 0 to 85+). The next step was to survive each age-sex-race-ethnic group forward 1 year using the pertinent survival rate. The internal redistribution of the population was accomplished by applying the appropriate state-to-state migration rates to the survived population in each state. The projected out-migrants were subtracted from the state of origin and added to the state of destination (as in-migrants). Next, the appropriate number of immigrants from abroad was added to each group. The population under age 1 was created by applying the appropriate age-race-ethnic-specific birth rates to females of childbearing age. The number of births by sex and race/ethnicity were survived forward and exposed to the appropriate migration rate to yield the population under age 1. The final results of the projection process were adjusted to be consistent with the national population projections by single years of age, sex, race, and Hispanic origin. The entire process was then repeated for each year of the projection.

More information is available in the Census Bureau Population Paper Listing 47 (PPL-47) and Current Population Report P25-1130. These reports may be obtained from:

Statistical Information Staff
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
(301) 763-3030
http://www.census.gov

Other Sources

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports enrollment, teacher, revenue, and expenditure data in its annual publication *Estimates of School Statistics*. Each year, NEA prepares regression-based estimates of financial and other education statistics and submits them to the states for verification. Generally, about 30 states adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA.

Additional information is available from:

National Education Association—Research
1201 16th Street NW
Washington, DC 20036
http://www.nea.org

Global Insight, Inc.

Global Insight, Inc. provides an information system that includes databases of economic and financial information; simulation and planning models; regular publications and special studies; data retrieval and management systems; and access to experts on economic, financial, industrial, and market activities. One service is the Global Insight Model of the U.S. Economy, which contains annual projections of the U.S.

economic and financial conditions, including forecasts for the federal government, incomes, population, prices and wages, and state and local governments, over a long-term (10- to 25-year) forecast period.

Additional information is available from:

Global Insight, Inc.
1000 Winter Street
Suite 4300N
Waltham, MA 02451-1241

Appendix D
Glossary

Data Terms

Associate's degree: A degree granted for the successful completion of a subbaccalaureate program of studies, usually requiring at least 2 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work-study program.

Average daily attendance (ADA): The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

Average daily membership (ADM): The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered as days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools.

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work-study program.

Classroom teacher: A staff member assigned the professional activities of instructing pupils in self-contained classes or courses, or in classroom situations. Usually expressed in full-time equivalents.

Cohort: A group of individuals that have a statistical factor in common, for example, year of birth.

College: A postsecondary school that offers a general or liberal arts education, usually leading to an associate's, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included in this term.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer Price Index (CPI): This price index measures the average change in the cost of a fixed market basket of goods and services purchased by consumers.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures (elementary/secondary): The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, school books and materials, and energy costs.

Current expenditures per pupil in average daily attendance: Current expenditures for the regular school term divided by the average daily attendance of full-time pupils (or full-time-equivalency of pupils) during the term. See also *current expenditures* and *average daily attendance*.

Current-fund expenditures (higher education): Money spent to meet current operating costs, including salaries, wages, utilities, student services, public services, research libraries, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

Current Population Survey: See appendix C, Data Sources.

Degree-granting institutions: Postsecondary institutions that are eligible for Title IV federal financial aid programs and that grant an associate's or higher degree. For an institution to be eligible to participate in Title IV financial aid programs it must

offer a program of at least 300 clock hours in length, have accreditation recognized by the U.S. Department of Education, have been in business for at least 2 years, and have signed a participation agreement with the Department.

Disposable income: Current income received by persons less their contributions for social insurance, personal tax, and nontax payments. It is the income available to persons for spending and saving. Nontax payments include passport fees, fines and penalties, donations, and tuitions and fees paid to schools and hospitals operated mainly by the government. See also *personal income*.

Educational and general expenditures: The sum of current funds expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

Doctor's degree: An earned degree carrying the title of doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading.

Elementary school: A school classified as elementary by state and local practice and composed of any span of grades not above grade 8. A preschool or kindergarten school is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary and secondary schools: As used in this publication, includes only regular schools, that is, schools that are part of state and local school systems and also most private elementary and secondary schools, both religiously affiliated and nonsectarian. Schools not included in this term are subcollegiate departments of institutions of higher education, residential schools for exceptional children, federal schools for Indians, and federal schools on military posts and other federal installations.

Enrollment: The number of students registered in a given school unit at a given time, generally in the fall of a year.

Expenditures: Charges incurred, whether paid or unpaid, that are presumed to benefit the current fiscal year. For elementary and secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, or extension of credit. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or average daily membership.

First-professional degree: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 academic years of work to complete the degree program, including both prior required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatry (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (L.L.B. or J.D.), and theological professions (M.Div. or M.H.L.).

First-professional enrollment: The number of students enrolled in a professional school or program that requires at least 2 years of academic college work for entrance and a total of at least 6 years for a degree. By NCES definition, first-professional enrollment includes only students in certain programs. (See *first-professional degree* for a list of programs.)

Full-time enrollment: The number of students enrolled in higher education courses with total credit load equal to at least 75 percent of the normal full-time course load.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions.

Full-time worker: In educational institutions, an employee whose position requires being on the job on school days throughout the school year at least the

number of hours the schools are in session; for higher education, a member of an educational institution's staff who is employed full time.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Graduate enrollment: The number of students who hold the bachelor's or first-professional degree, or the equivalent, and who are working toward a master's or doctor's degree. First-professional students are counted separately. These enrollment data measure those students who are registered at a particular time during the fall. At some institutions, graduate enrollment also includes students who are in postbaccalaureate classes but not in degree programs.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, and 12 (in a 6-3-3 plan), or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

Higher education: Study beyond secondary school at an institution that offers programs terminating in an associate's, baccalaureate, or higher degree.

Higher education institutions (traditional classifications):

> **4-year institution:** An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a bachelor's degree. A university is a postsecondary institution that typically includes one or more graduate professional schools.
>
> **2-year institution:** An institution legally authorized to offer and offering at least a 2-year program of college-level studies that terminates in an associate's degree or is principally creditable toward a baccalaureate.

See also *degree-granting institutions* and *postsecondary education*.

Higher Education Price Index: A price index that measures average changes in the prices of goods and services purchased by colleges and universities through current-fund expenditures and educational and general expenditures (excluding expenditures for sponsored research and auxiliary enterprises).

Instructional staff: Full-time-equivalent number of positions, not the number of individuals occupying the positions during the school year. In local schools, it includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or the improvement of the teaching-learning situation. This includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. This excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

Master's degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree (M.A.) and the Master of Science degree (M.S.), is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, or an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

Part-time enrollment: The number of students enrolled in higher education courses with a total credit load of less than 75 percent of the normal full-time credit load.

Personal income: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits, military pensions, and so forth, but excludes transfers among persons.

Postbaccalaureate enrollment: The number of graduate and first-professional students working toward advanced degrees and students enrolled in graduate-level classes but not enrolled in degree programs. See also *graduate enrollment* and *first-professional enrollment*.

Postsecondary education: The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational,

and continuing professional education purpose, and excludes avocational and adult basic education programs.

Private institution: A school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government; that is usually supported primarily by other than public funds; and the operation of whose program rests with other than publicly elected or appointed officials.

Property tax: The sum of money collected from a tax levied against the value of property.

Public school or institution: A school or institution controlled and operated by publicly elected or appointed officials and generally deriving its primary support from public funds.

Pupil/teacher ratio: The enrollment of pupils at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these pupils during the same period.

Revenues: All funds received from external sources, net of refunds and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, or nonroutine sale of property.

Revenue receipts: Additions to assets that do not incur an obligation that must be met at some future date and do not represent exchanges of property for money. Assets must be available for expenditures.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

School: A division of the school system consisting of students in one or more grades or other identifiable groups and organized to give instruction of a defined type. One school may share a building with another school or one school may be housed in several buildings.

Secondary instructional level: The general level of instruction provided for pupils in secondary schools (generally covering grades 7 through 12 or 9 through 12) and any instruction of a comparable nature and difficulty provided for adults and youth beyond the age of compulsory school attendance.

Secondary school: A school including any span of grades beginning with the next grade following an elementary or middle school (usually 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Senior high school: A secondary school offering the final years of high school work necessary for graduation.

Student: An individual for whom instruction is provided in an educational program under the jurisdiction of a school, school system, or other educational institution. No distinction is made between the terms "student" and "pupil," although "student" may refer to one receiving instruction at any level while "pupil" refers only to one attending school at the elementary or secondary level. The term "student" is used to include individuals at all instructional levels. A student may receive instruction in a school facility or in another location, such as at home or in a hospital. Instruction may be provided by direct student-teacher interaction or by some other approved medium, such as television, radio, telephone, or correspondence.

Tax base: The collective value of sales, assets, and income components against which a tax is levied.

Total expenditure per pupil in average daily attendance: Includes all expenditures allocable to per pupil costs divided by average daily attendance. These allocable expenditures include current expenditures for regular school programs, interest on school debt, and capital outlay. Beginning in 1980-81, expenditures for administration by state governments are excluded and expenditures for other programs (summer schools, community colleges, and private schools) are included.

Unclassified students: Students who are not candidates for a degree or other formal award, although they are taking higher education courses for credit in regular classes with other students.

Undergraduate students: Students registered at an institution of higher education who are working in a program leading to a baccalaureate or other formal award below the baccalaureate, such as an associate's degree.

Statistical Terms

Autocorrelation: Correlation of the error terms from different observations of the same variable. Also called *serial correlation*.

Degrees of freedom: The number of free or linearly independent sample observations used in the calculation of a statistic. In a time series regression with t time periods and k independent variables including a constant term, there would be t minus k degrees of freedom.

Dependent variable: A mathematical variable whose value is determined by that of one or more other variables in a function. In regression analysis, when a random variable, y, is expressed as a function of variables x_1, x_2,..., plus a stochastic term, then y is known as the "dependent variable."

Double exponential smoothing: A method that takes a single smoothed average component of demand and smoothes it a second time to allow for estimation of a trend effect.

Durbin-Watson statistic: A statistic testing the independence of errors in least squares regression against the alternative of first-order serial correlation. The statistic is a simple linear transformation of the first-order serial correlation of residuals and, although its distribution is unknown, it is tested by bounding statistics that follow R. L. Anderson's distribution.

Econometrics: The quantitative examination of economic trends and relationships using statistical techniques, and the development, examination, and refinement of those techniques.

Estimate: A numerical value obtained from a statistical sample and assigned to a population parameter. The particular value yielded by an estimator in a given set of circumstances or the rule by which such particular values are calculated.

Estimating equation: An equation involving observed quantities and an unknown that serves to estimate the latter.

Estimation: Estimation is concerned with inference about the numerical value of unknown population values from incomplete data, such as a sample. If a single figure is calculated for each unknown parameter, the process is called point estimation. If an interval is calculated within which the parameter is likely, in some sense, to lie, the process is called interval estimation.

Exogenous variable: Variable for which the values are determined outside the model but which influence the model.

Exponential smoothing: A method used in time series to smooth or to predict a series. There are various forms, but all are based on the supposition that more remote history has less importance than more recent history.

First-order serial correlation: When errors in one time period are correlated directly with errors in the ensuing time period. Also called *autocorrelation*.

Forecast: An estimate of the future based on rational study and analysis of available pertinent data, as opposed to subjective prediction.

Forecast horizon: The number of time periods into the future which are forecasted. Forecasts for next year are said to have a 1-year forecast horizon.

Forecasting: Assessing the magnitude which a quantity will assume at some future point in time, as distinct from "estimation," which attempts to assess the magnitude of an already existent quantity.

Function: A mathematical correspondence that assigns exactly one element of one set to each element of the same or another set. A variable that depends on and varies with another.

Functional form: A mathematical statement of the relationship among the variables in a model.

Independent variable: In regression analysis, when a random variable, y, is expressed as a function of variables x_1, x_2,..., plus a stochastic term, the x's are known as "independent variables."

Interpolation: See *linear interpolation*.

Linear interpolation: A method that allows the prediction of an unknown value if any two particular values on the same scale are known and the rate of change is assumed constant.

Lag: An event occurring at time $t + k$ ($k > 0$) is said to lag behind an event occurring at time t, the extent of the lag being k. An event occurring k time periods before another may be regarded as having a negative lag.

Maximum likelihood estimation: A method of estimating a parameter or parameters of a population by that value (or values) that maximizes (or maximize) the likelihood of a sample.

Mean absolute percentage error (MAPE): The average value of the absolute value of errors expressed in percentage terms.

Model: A system of postulates, data, and inferences presented as a mathematical description of a phenomenon such as an actual system or process. The actual phenomenon is represented by the model in order to explain it, to predict it, and to control it.

Ordinary least squares (OLS): The estimator that minimizes the sum of squared residuals.

Parameter: A quantity that describes a statistical population.

Projection: In relation to a time series, an estimate of future values based on a current trend.

R^2: The coefficient of determination; the square of the correlation coefficient between the dependent variable and its OLS estimate.

$\bar{R}^2$ (also called the adjusted R^2): The coefficient of determination adjusted for the degrees of freedom.

Regression analysis: A statistical technique for investigating and modeling the relationship between variables.

Rho: A measure of the correlation coefficient between errors in time period t and time period t minus 1.

Serial correlation: Correlation of the error terms from different observations of the same variable. Also called *autocorrelation*.

Standard error of estimate: An expression for the standard deviation of the observed values about a regression line. An estimate of the variation likely to be encountered in making predictions from the regression equation.

Time series: A set of ordered observations on a quantitative characteristic of an individual or collective phenomenon taken at different points in time. Usually the observations are successive and equally spaced in time.

Time series analysis: The branch of quantitative forecasting in which data for one variable are examined for patterns of trend, seasonality, and cycle.

Variable: A quantity that may assume any one of a set of values.

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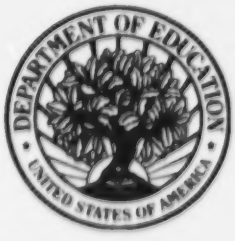

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